

 $\begin{array}{c} {\rm Additional\ chart\ coverage\ may\ be\ found\ in\ CATP2,\ Catalog\ of\ Nautical\ Charts.} \\ {\rm SECTOR\ 7\ ---\ CHART\ INFORMATION} \end{array}$ 

## **SECTOR 7**

## SULAWESI—WEST AND NORTH COASTS

**Plan.**—This sector describes the W coast of Sulawesi from Tanjung Lassa W about 60 miles to Tanjung Pepe, then N about 430 miles to Ujung Malangka. From Ujung Malangka, the coast trends in a general E direction about 255 miles to Tanjung Utara, the N extremity of Sulawesi.

The coastal description is from E to W along the SW peninsula then N along the W coast, then from W to E along the N peninsula of the island. Then off-lying islands and dangers are described with their respective coastal areas.

## **General Remarks**

**7.1** The best known and most important of the Sulawesi peninsulas is the SW, which has Makassar Strait to the W and Teluk Bone to the E. A chain of mountains runs through the peninsula and rises to a height of about 2,896m in the S and about 3,440m in the N.

The N peninsula is about 260 miles in length and never exceeds 60 miles in breadth. A range of mountains run through it, the general height being about 610m, while some peaks rise to over 1,829m. The entire peninsula is rugged and mountainous. The NE extremity is a highly cultivated and fertile district. A large part of this district is a plateau from 762 to 914m.

The only port of importance along these coasts is Ujung Pandang (formerly known as Makassar), near the SW extremity of the SW peninsula. It is the chief shipping point for Sulawesi.

**Winds—Weather.**—The monsoons in Makassar Strait are not as marked and are weaker than those in the Java Sea. Near the shores of Sulawesi, the land and sea breezes blow throughout the whole year.

The local topographical features and direction of the coast may greatly influence the force and direction of the wind then blowing in the strait. Land breezes can be expected between about 1900 hours and 0700 hours and sea breezes from 1000 to 1700 hours. Where the monsoon is strong on a lee shore, the land breeze may not occur.

Along the W coast of Sulawesi, the Southeast Monsoon sets in over the S part in April blowing from NE to SE. Calms and NW winds are sometimes felt. This unsettled weather lasts until June, when the wind begins to blow with some regularity from SE, occasionally shifting to the SW. These winds will bring in a swell and blowing in opposition to the prevailing S currents, produce a short and troubled sea.

In September and October there is a decrease in wind and sea and changing through S and W. Winds blow from W in November, and in December from SW to NW. These winds cannot be relied upon.

Squalls and thunderstorms occur in December. The Northwest Monsoon is at its height in January and blows from the NW. The heavy squalls, with much rain and heavy seas, begin to abate in February. Light breezes from NW to NE and E occur in March.

December to March are considered the rainy months, but there are showers at all other times. July to August can be termed the dry season.

In the N part of the W peninsula, the force of the wind is still less. The monsoons from N and SSW are variable and depend to a great extent on the strength of the wind circulation in the Celebes Sea and the Java Sea. The seasons are not well defined and much rain occurs.

In May, the SSW winds commence. These veer occasionally to W and NW, and are more or less variable and unsteady. The monsoon is at its height from June to September, and SW winds prevail both day and night.

In October, the monsoon decreases in force and is lowest in November, the wind sometimes veering to the N and NE. In December the general direction is NW, in January N, and in February NNE winds blow with some steadiness, decreasing in April when calms and variable breezes can be expected.

There is less cloudiness in the N than in the S part of the peninsula, but rain is heavier and more continuous. The rainy season is from November to March, and the dry season from July to September. Squalls and thunderstorms are rare, but mist occurs.

In the Celebes Sea, along the N coast of the W peninsula, the Southeast Monsoon prevails from the second half of May to October, and a NNE monsoon from December to April, but neither have great constancy or great force.

Near the Sulawesi coast, the land and sea breezes have an influence on the monsoons so that the Southeast Monsoon is more constant and stronger by night, while the NNE monsoon is stronger by day. April and October are the months of the monsoon change. In general, the monsoons have a more characteristic course toward the E.

Rain falls all year around, though not in great quantities. The most rain falls in January, the least in September. Further E, the contrast between seasons is greater. Hard squalls are relatively rare, but they reach the N coast of Sulawesi particularly when the Southeast Monsoon is at its strongest, and the land breeze is paired with hard squalls and thunderstorms.

November and December are the months in which a hard wind the (Barat) is most common. This wind, during the N monsoon, rises to about 30 knots and because of the accompanying state of the sea surf makes communication with the shore and open roadsteads of N Sulawesi temporarily impossible.

**Tides—Currents.**—A S or SW current occurs within the open part of Makassar Strait throughout the year. It is sometimes stronger along the Sulawesi coast. The average rate is about 0.75 knot, varying somewhat in different months. A maximum rate of 3 knots during the Southeast Monsoon has been recorded.

In the S part of Makassar Strait, the direction of the S current is influenced by the prevailing monsoon. From June to September, the current is SW and passes into the W current of the Java Sea. From November to March, the current is SE and

passes into the E current of the Java and Flores Seas. April and May are months of transition and the current along the Sulawesi coast turns SE. During the transition month of October, the current turns SW and W.

Little is known of the currents along the N coast of Sulawesi as no systematic observations have been made.

From numerous previous reports, the currents along this coast appear to be irregular and fairly strong. In the month of June, during the first quarter of the moon, a current with a rate of 2.25 to 3 knots was observed setting onto the coast in an ESE direction. The current probably sets E along the N coast throughout the year. Its mean rate is probably less than 1 knot, except during the Northwest Monsoon when it may exceed 3 knot and on rare occasion.

**Caution.**—The possibility of mines exist in the area described in this sector.

## West Peninsula—Off-lying Islands and Dangers

**7.2 Selat Salayar.**—This strait is about 9 miles wide between Tanjung Lassa and Pulau Salayar. The most used part of the strait is 3 miles wide with depths of 366 to 732m, which quickly deepens E to 2,196m.

**Pulau Liukanglu** (North Island) (5°39'S., 120°26'E.), 2 miles SW of Tanjung Lassa, is wooded on the N and E coast. Anchorage may be obtained off the SW coast in depths of 15 to 26m, sand. Vessels can also anchor off the W side of the island in a depth of 20m, with some shelter from wind and sea.

Currents in the W anchorage sets WNW and attain a rate of 2 to 3 knots.

Pulau Sarontang, 42m high and nearly in the middle of the strait, is rocky and slightly wooded. There is a surrounding reef, and on the S side the 10m curve is 0.3 mile from shore. Pulau Pasitanete (South Island) is 59m high, and except on the N side which can be closely approached, is fringed by a reef.

A light shown from a white iron framework tower, 20m high, stands on the N side of the island.

The channel between Pulau Pasitanete and Pulau Salayar is 1 mile wide, but is reduced by reefs from both sides to less than 0.25 mile in width. Tidal currents in the passage are violent and irregular and render it unfit for any but small vessels.

**Taka Boloh** (Mansfield Shoal) (5°48'S., 120°13'E.), about 15 miles SW of Pulau Liukanglu, is of coral and sand and has a least depth of 6.7m.

Quirk Reef is located about 5.25 miles WNW of Taka Boloh. When seen, it is marked by brown discolored water, with waves breaking and tide rips around it.

Taka Rangkap, 9 miles W of Pulau Liukanglu, is formed of coral, sand, and stone. The least depth over the reef is 4.5m, with 18.3 to 37m around it.

**Tides—Currents.—**Through all the passages in Selat Salayar, strong currents causing whirlpools are frequently experienced, and when wind and current are opposed to each other, overfalls resembling surf are raised. There is often a strong eddy under the coast of Sulawesi.

From May to September, at the height of the Southeast Monsoon, there is a constant SW stream with a rate of 1 knot. At the decline of this monsoon, it takes an E direction which persists till March or April, and the rate decreases to 0.25 knot.

Weather conditions on either side of Selat Salayar often show striking contrasts. During the Northwest Monsoon, rain may occur on the W side of the strait while on the E side, it is fine

In May, June, and July rainy weather and a high sea on the E side will suddenly change over to calm weather on the W side.

## Pulau Salayar—West Coast

**7.3 Pulau Salayar** (6°08'S., 120°30'E.), separated from Tanjung Lassa by Selat Salayar, is about 44 miles long N and S, and is traversed throughout by a mountain chain that runs along the E coast and slopes gradually to the flat stretch of coast on the W side.

Tanjung Sangkulungan (Tanjung Matainyi), the N extremity of Pulau Salayar, rises to a plateau 117m high and is separated from the higher land S by a deep saddle, which when seen from a distance E or W, has the appearance of an island and it is sometimes mistaken for Pulau Pasitanete.

About 6 miles S of Tanjung Sangkulungan, a plateau rises steeply to a height of 341m and has a square wood on its N edge.

The coast between Tanjung Sangkulungan and **Balangnipa** (Batangmata) (5°56'S., 120°27'E.), 10 miles S, is bordered by a drying reef that extends about 0.25 mile offshore.

From Balangnipa to Barugeja, a village 6 miles S, then to Benteng 5.25 miles farther S, the coast is high but there are no conspicuous summits. There is a prominent cleft in the hilly land 1 mile N of Barugeja, and 1 mile NE of the cleft there is a conspicuous tree charted.

During the Southeast Monsoon, numerous praus are usually seen lying near the coastal reef off Balangnipa, and there is considerable local traffic between the village and Sulawesi and also to points S.

**7.4 Benteng** (6°07'S., 120°28'E.) (World Port Index No. 52310), a large village and the headquarters of a government official, stands 2 miles SE of Tanjung Baruya, the N extremity of Pulau Pasi. There is a flagstaff at the N end of the village, and a boat pier which can only be reached at high water.

A mosque stands 0.3 mile E of the pier and a warehouse with a zinc roof stands 0.3 mile S of the pier, both are excellent landmarks.

Benteng Road is bound by a line drawn from Tanjung Baraya (Tanjung Baroeja) to the flagstaff at Benteng, then in a 259° direction to Pulau Pasi.

Anchorage may be taken 0.25 mile W of Benteng in depths of 12 to 15m. Strong W winds quickly raise a sea, and communication with the shore is difficult.

**Directions.**—When bound for Benting from the N, steer 139° for an isolated zinc shed 0.4 mile S of the flagstaff at Benting, which leads between a 4.2m patch 0.3 mile NE and a 4.9m patch 1.25 miles N of **Tanjung Baruya** (6°06'S., 120°26'E.).

When Tanjung Baruya bears 250°, change course to 180° which leads midway between Tanjung Baruya and a belowwater reef with a depth of 1.5m, 0.7 mile E of Tanjung Baruya.

When the flagstaff at Benteng bears 109°, change course and steer for the middle of Benteng which leads between a 1.0m

patch 1 mile SE of Tanjung Baruya, and a 2.7m patch 0.6 mile further N.

**7.5 Pulau Pasi** (Varkens) (6°09'S., 120°25'E.) lies parallel to the W coast of Pulau Salayar, and is about 6 miles long. It is about 2 miles wide at the S end where it rises in a line of hills to a height of 96m. The N end of the island is low and covered with coconut trees. A hilly ridge rises to 57m, 1.25 miles to the S.

The coastal reef around Pulau Pasi extends up to 0.6 mile on the S and W sides, but extends 1.25 miles NW from Tanjung Baruya.

There is a channel between Pulau Pasi and Pulau Salayar that is about 1.25 miles in width at the N end, and is contracted to a width of 183m at the S end which is known as Padang Narrows.

The S entrance is also obstructed by fishing stakes. Only small, light-draft vessels should attempt to pass through the narrows.

A 4.9m coral patch lies in the N entrance, about 1.25 miles N of Tanjung Baruya.

A 4.2m coral patch and a 1.5m coral patch lie 0.3 mile NE and 0.5 mile E, respectively, of Tanjung Baruya. A coral patch with a least depth of 2.7m lies close S of the 1.5m patch described above. All of these patches are surrounded by deep water.

Tidal currents in the channel between Pulau Pasi and Pulau Salayar are weak.

**Whale Reef** (Welvisch) (6°05'S., 120°20'E.) consists of three detached groups of shoals 3 to 7.6m deep. The 7.6m shoal lies 7.75 miles WNW of Tanjung Baruya near the 200m curve, and is steep-to on the W side. The reefs are steep and reported visible at about 2 to 2.25 miles.

From Whale Reef, the charted 200m curve extends S 16 miles, then turns NE toward the coast to a position about 2.25 miles offshore near Layolo Bay.

**Padang** (6°11'S., 120°26'E.) is located 4.25 miles SSW of Benting and is situated on the E side of the passage described above.

The coast between Padang and Ujung Apatana, 20 miles farther S, is high as far as Layolo Bay, then it gradually descends to Ujung Apatana, a low spit running far out to sea and ending in a sandbank.

The sandbank is fringed by a reef which extends 0.75 mile offshore and is steep-to.

**7.6 Ujung Dodaija** (Tanjung Batu Kallong) (6°16'S., 120°27'E.), located 5.25 miles S of Padang, is the N entrance point of Layolo Bay. Tanjung Batu Putih, 2.75 miles SE of Ujung Dodaija, is the S entrance point of Layolo Bay.

Tanjung Batu Putih is a high, white sandstone point which is conspicuous with the sun shining on it. A reef extends 2 miles W from the point.

Ujung Batukurapu (Tanjung Batoe Kerapo), 5 miles SSW of Tanjung Batu Putih, is a steep and rocky point.

Ujung Apatana (Tanjung Apatana) is located 7 miles SSE of Ujung Batukurapu. The point has previously been described in paragraph 7.5.

**Bylandt Reef** (6°18'S., 120°24'E.), with a least depth of 1.2m, lies 3.75 miles WSW of Ujung Dodaija. A 4.8m patch,

lying 1.25 miles WNW of this reef, is only slightly marked by discoloration.

Pulau Guang (Goeang), 57m high, and Pulau Malimbu, 66m high, lie 2 and 3.25 miles, respectively, N of Ujung Batukurapu.

Anchorage may be obtained by vessels with local knowledge, about 0.3 mile W of Pulau Guang in depths of 27 to 37m, sand.

The channel within Pulau Guang and Pulau Malimbu is only suitable for praus.

The islands S of Pulau Salayar lie on a large steep-to bank near the 200m curve, and consist of sand, coral, and stones. The water is very clear, and the bottom can be easily seen in 20m.

**Pulau Bahuluang** (Bahoeloeang) (6°29'S., 120°26'E.), the farthest N of this group of islands, is located 3.75 miles NW of Ujung Apatana. The island rises to a height of 72m, and is conspicuous. A reef which dries, extends 1.25 miles N from the island.

The passage between Pulau Bahuluang and the S extremity of Pulau Salayar, 2.75 miles E, is deep and safe.

Badjan Lamberreh (Bajan Lamberreh) is a narrow ridge with a least depth of 3.3m, which extends S from Pulau Bahuluang to Pulau Tambolongang.

With careful sounding, little sea, and a clear sight of the reefs, small vessels may pass over this ridge, taking care to avoid the central part.

**Tides—Currents.**—Currents with a rate of 2 knots have been observed over Badjan Lamberreh.

Tidal currents between Pulau Bahuluang and the S extremity of Pulau Salayar, a NW stream, sometimes attain a rate of 3 knots. During May, June, and July, the SE current is not strong.

Pulau Tambolongang, with a 221m hill in the N part, is a good landmark from all directions. The administrative headquarters are in the village of Taloh, on the E coast.

Pulau Pulasi (Poelasi) has a conspicuous steep hill, 227m high on the N side, tailing off to the S with a series of pointed hills gradually decreasing in height. Pulau Pulasi, the farthest S of this group of islands, lies 10 miles SSW of Ujang Apatana.

**Nambolaki** (6°42'S., 120°17'E.), a small wooded islet lying on the SW point of the bank, is located 9 miles W of Pulau Pulasi; the islet is marked by a light. There are several shoal patches on the bank which may best be seen on the chart. There is a 1.2m patch, close within the 200m line, located 7 miles N of Nambolaki.

## **Sulawesi—West Coast**

**7.7 Tanjung Lassa** (Tanjung Laso) (5°37'S., 120°29'E.), is the SE extremity of the W peninsula of Sulawesi. From Tanjung Lassa to Tanjung Pepe, about 60 miles W, the coast forms a few bays and is backed by some conspicuous mountains.

In the E part, one of the most conspicuous mountains is **Slangenberg** (5°29'S., 120°10'E.), 423m high, located about 20 miles WNW of Tanjung Lassa.

The highest and most conspicuous of these mountains is Gunung Lompobatang (Lompo Batang), 2,900m high, located 11 miles inland, 16 miles NW of Slangenberg. Vessels approaching the SW coast of Sulawesi under favorable

conditions will sight Gunung Lomobatang long before the offlying islands and low wooded coast are visible.

The mountains SW of Gunung Lompobatang are of little use for navigation at any distance, because the various peaks are not easily identified.

The coast from Tanjung Lassa to **Bulukumba** (5°34'S., 120°11'E.), about 17 miles W, is generally low and the depths off it are irregular. The coast between these two positions recedes and forms Teluk Birangkeke. There is good anchorage in Teluk Birangkeke in a depth of 26m, with shelter in both monsoons.

Bulukumba, a large village at the mouth of Sungai Teko, is easily recognized by the light shown from a white metal framework tower, 24m high 0.3 mile SW of the river entrance. Anchorage may be taken E of the light; however, vessels do not lie well here as a heavy surf quickly rises off the entrance. A better anchorage is situated about 1 mile SW of the lighthouse where communication with the shore is easier and there is no trouble with breakers.

Bonthain, 15 miles W of Bulukumba, extends for a considerable distance along the coast at the foot of the mountains and is an administrative headquarters. There is a waterfall, 79m high, in the vicinity of the village, and a conspicuous bare hill stands 1.25 miles WNW of Bonthain. A flagstaff is situated on the principal building in the village. A small landing pier is situated near the flagstaff. Bonthain Road is bound within the limit of a circle with a 1 mile radius, measured from the flagstaff. Anchorage may be taken in the road in depths of 7 to 9m, with good holding ground, 0.8 mile SW of the flagstaff. The anchorage is safe in the Northwest Monsoon, but the swell is felt until close inshore. In the Southeast Monsoon, there is often a heavy swell and with S winds boats have considerable difficulty proceeding alongside the boat pier.

Between Bonthain and Jeneponto (Djeneponto), 17 miles SW, the coast is covered with paddy fields and coconut palms. Tanjung Petang, 9 miles SW of Bonthain, is low and Tanjung Bulu Bulu, 5 miles farther SW, is an inconspicuous rounded point. Between Bonthain and Tanjung Petang there are several shoal patches with irregular depths, within 2.25 miles of the shore.

**7.8 Jeneponto** (5°42'S., 119°43'E.), the seat of a government official, lies at the entrance of a river of the same name. Jeneponto is not easy to identify from seaward, but in clear weather steer for the high mountain Maya (Maja), located 15 miles WSW of Gunung Lompobatang, on course 356°.

Temporary anchorage may be obtained, depending on the weather, outside the 5.5m line off Jeneponto.

A danger area exists S of Jeneponto. Its limits may be seen on the area chart.

From Jeneponto, the coast trends in a WNW direction about 5 miles to Tanjung Kayuleleng (Tanjung Kajoeleleng), a low, shrub covered point. It is advisable not to approach the coast at this point within 1.25 miles, as the depth S and W of it are irregular.

Teluk Malasoro is entered between Ujung Kayuleleng and Ujung Mangasa, 4.25 miles WNW. The bay is 2.25 miles wide and offers secure anchorage in both monsoons.

Pulau Libukang, off the W side of the entrance, is reef fringed. On the NE shore of the bay, Cinnong (Tjinnong), a hill 115m high with two white patches at the base, is conspicuous. Bulu Pinka, 615m high, is located 6.25 miles N of Cinnong. Bulu Pinka has steep slopes and a rugged outline. When viewed from the S or SE, it shows two vertical clefts in the summit. Sibukang is a 204m rounded hill, thickly wooded with dark trees, lying 5 miles SSW of Bulu Pinka.

The bay may be approached with Bulu Pinka and Sibukang in line, bearing 021°, and entered with Cinnong, bearing 048°.

Teluk Laikang is 4 miles wide between Ujung Kasimatimpowa (Udjung Kasi Matimpowa), its SE entrance point 6 miles WNW of Ujung Kayuleleng, and Ujung Pepe, the NW entrance point. Both entrance points are low, sandy, and fringed by a drying reef. A dangerous wreck, with a least depth of 4m, lies about 2 miles SW of Ujung Pepe.

**7.9 Karampuang** (5°35'S., 119°33'E.), a hill 114m high, is located close inland on the NE shore of the bay.

Tanjung Puntondo is low and thickly covered with dark trees. It lies within the W entrance of Teluk Laikang, 1 mile N of Ujung Pepe.

To enter Teluk Laikang, steer on Karampuang, bearing 038°. This leads clear of the entrance reefs. Anchorage may be taken either SE or NE of Tanjung Puntondo.

**Ujung Pepe** (5°37'S., 119°28'E.) is low and not conspicuous, but a point 2.25 miles NW may be identified by two dark rocks which show well against the sandy shore.

The coast between Ujung Pepe and Ujung Pandang, 30 miles N, is low with few noticeable landmarks.

From Ujung Pepe to Ujung Salisingang (Udjung Djambatang I Meong), 4.25 miles NNW, the coast is covered with tall trees that grow close to the water. The ridge inland is not wooded.

**Ujung Parapa** (5°25'S., 119°22'E.) is located 8.25 miles NNW of Ujung Salisingang. The low coast between the two points is reported to be mostly fronted by fish ponds.

Takalar, a large village, is situated about 1 mile inland, 5 miles N of Ujung Salisingang.

From Ujung Pepe to Ujung Parapa, the 11m curve lies from 1 to 2.25 miles offshore.

**Taka Luwara** (Taka Loewara) (5°37'S., 119°23'E.), a small sand and coral patch with a depth of 6.7m, lies 5.25 miles W of Ujung Pepe. Manrantusang, a shoal area with a least depth of 6.7m, lies 3.25 miles N of Taka Luwara. This shoal, which is not marked by discoloration, may be passed on either side, but a dangerous wreck lies 1.25 miles E of the shoal.

Malambeang, with a least depth of 2.1m, lies 2 miles S of Ujung Parapa. There are several shoals around it.

**7.10 Selat Tanakeke** (5°30'S., 119°21'E.) is bound on the E by the coast of Sulawesi between Ujung Salisingang and Ujung Parapa, and on the W by Pulau Tanakeke. The strait is about 1.25 miles wide at the N end between the shoals in the vicinity of Malambeang and Pulau Tanakeke, and is about 5 miles wide at the S entrance, although it is partly blocked there by Manrantusang. The depths in the strait vary from 10.4 to 25m. Tidal currents set in the general direction of the fairway and are sometimes very strong.

**Pulau Tanakeke** (5°30'S., 119°17'E.) is a low, thickly-overgrown island covered in parts with high trees. There is an extensive growth of scrub on the coastal reef which dries. When covered, the reef is marked by discoloration.

A light is shown from the S coast of the island.

Owing to this growth, the points of the island should not be used for bearings. The island can usually be seen from a distance of 10 miles. A dangerous wreck lies approximately 6.75 miles S of the island.

The village of Kalukan on the SW side, and Tompotana on the E side are hidden by coconut palms. Tanakeke Light is shown from a white beacon standing on a reef close NE of Tompotana.

Pulau Bauluwang (Pulau Baoeloeang) is separated from the NW side of Pulau Tanakeke by a channel about 1 mile wide. This channel should not be used. Pulau Satanga, which has some high coconut palms, lies NW of Pulau Bauluwang. It is separated from Palau Bauluwang by a narrow shoal channel.

**Pulau Dayangdayangan** (Dajangdajangan) (5°24'S., 119°11'E.) lies 2.75 miles NW of Pulau Satanga. The island is nearly surrounded by a drying reef, except on its NE side. A channel with a depth of 21.6m lies between the two islands. It is frequently used by vessels approaching Ujung Pandang (Makassar) from SW.

A light, shown from a white metal framework tower, 30m high, stands on the SE side of the island.

**Taka Gosseya** (5°23'S., 118°59'E.) covers a large area and has a least depth of 4.5m. It lies 12 miles W of Pulau Dayangdayangan and is generally marked by discoloration.

Ponto Pontopontowang, a small shoal with a depth of 5.8m, lies 4.75 miles SE of Taka Gosseya and is not marked by discoloration. A light stands on the E side of this shoal.

**Taka Patapa** (5°29'S., 119°06'E.), with a least depth of 9.5m, lies 10 mile SE of Taka Gosseya on the S end of a bank with a least depth of 18.3m.

Taka Dange, with a least depth of 10.3m, lies 5.25 miles ESE of Taka Patapa.

Between Ujung Parapa and the delta of Jene Berang (Djene Berang), about 16 miles N, there are few landmarks. Pulau Sangrobengi, a small island lying on the coastal reef 6 miles N of Ujung Parapa, is a good landmark from N or S, but from the W it is difficult to distinguish.

**7.11 Taka Bubuyang** (Boeboejang) (5°11'S., 119°22'E.) is a stony patch with a least depth of 5.7m located 1.25 miles W of the delta of Jene Berang. Taka Pinjing (Taka Pindjing), a below-water rock, lies 0.25 mile NW of Jene Berang.

**Pulau Lae Besar** (Pulau Laelae) (5°08'S., 119°23'E.) is an artificial island lying on a reef which partly dries. A breakwater, about 0.3 mile in length, extends NNW from the island. This island, which is located 3.25 miles NNE of Taka Bubuyang, lies within the harbor limits of Ujung Pandang.

Pulau Lae Lae Kecil (Pulau Laelae Tjadi) (Pulau Laelae Cadi) is a bare sand flat, surrounded by a reef which only dries near its E end at the lowest tides. This reef, which lies close NNE of Pulau Lae Lae Besar, has a breakwater which is about 0.6 mile in length and lies in a NNE to SSW direction.

Gosong Boni is separated from the breakwater on Pulau Lae Lae Kecil by a channel, 183m wide, with depths of 12.8 to 16.5m. This is the main entrance channel to Ujung Pandang. A

small islet located on the E side of the reef is marked by the buildings of the quarantine station.

Karang Utama, with a least depth of 3.4m, lies 0.25 mile S of Pulau Lae Lae Kecil; a spoil ground lies 0.15 mile farther SW.

**Taka Baku** (Bakoe) (5°08'S., 119°21'E.), 2 miles WNW of Pulau Lae Lae Besar, is a small reef with a depth of 0.9m. The reef is seldom marked by discoloration.

## **Ujung Pandang (5°08'S., 119°24'E.)**

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**7.12** Ujung Pandang (Makassar) is an open roadstead and the most important port on the W coast of Sulawesi. It consists of a city, a basin for small vessels, and berthing facilities for large ships. An outer anchorage for large vessels lies W of the breakwaters.

## Sabah Ports Authority Home Page

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**Ujung Pandang Harbor** 

**Winds—Weather.**—In the approach to Ujung Pandang during the Southeast Monsoon, the sea breeze sets in at about 1000 and often blows with considerable strength from the SSW to SW.

The land wind is less and sets in between 1800 and 1900 from SSE to E; it is often strongest about sunrise. Ujung Pandang is approximately at the boundary of the dry E winds known as Brubu, which at times blow down from the mountains.

They may dominate the sea breeze and extend 4 or 5 miles offshore, setting in unexpectedly and with gusts accompanied by hazy weather.

In the Northwest Monsoon, which sets in about December with squalls and much rain, the wind is from W to NNW. The land breeze is seldom felt and only in a direction S of E.

**Tides—Currents.—**Tidal currents in Pelabuhan Ujung Pandang have only a slight influence on the monsoon current.

It was found from a 4 day observation towards the end of March, during the Northwest Monsoon, that the duration of the N current against the S current was just over half of that of the S current at this period of the year.

The rate of the S current was 1 to 1.25 knots, while that of the N current was very weak.

In Pelabuhan Ujung Pandang the current generally runs S in the strength of the Northwest Monsoon and N in the Southeast Monsoon. When Jene Berang is in flood there is a N current in the roadstead, while outside the reefs the current is setting S. The average tidal range is 0.3 to 1m.

**Depths—Limitations.**—The inner roadstead has depths of 10.2 to 17.7m. The Naval Pier, close N of Tanjung Pandan, has a depth of 4m alongside. Ships of 500 grt and under can dock alongside this pier. Jembatan Hatta (Djembatan Hatta), NE of the Naval Pier, a new concrete wharf, is 550m long with a depth of 8m alongside.

Pangkalang Sukarno, 1,360m long, with alongside depths of 8.2 to 9.9m, lies NNE of Jembatan Hatta.

All vessels, both ocean-going and coastal, are berthed at these wharves.

A wharf at the extreme N end of Pangkalan Sukarno, 150m long with a depth of 8.2m alongside, is for the exclusive use of vessels discharging bulk grain. Vessels of 9m draft have berthed here.

An oil berth, 70m long, with an alongside depth of 9m, is situated NNE of the grain pier. Tankers can enter only during daylight hours. Vessels up to 18,000 dwt, with a maximum length of 160m, can be accommodated.

The S entrance to the harbor lies between Ujung Pandang Lighthouse and a reef 0.6 mile NW.

**Aspect.**—A white grain silo, 54m high, stands near the grain wharf and the radio towers, 1.75 miles SSE of Tanjung Pandan, provide a conspicuous landmark.

**Pilotage.**—Pilotage is compulsory except for exempted vessels. Pilots embark at the E end of the swept channel, close N of the N breakwater.

A vessel should send her ETA to Ujung Pandang Radio station, 36 hours to 48 hours beforehand. The pilot station can also be contacted by radio. Normal pilot hours are 0600 to 1800, but in exceptional circumstances a vessel may leave as late as 2400.

**Signals.**—The following signals must be shown until the pilot is on board or until an answering signal has been made. Vessels arriving at night, but not wishing to enter, shall show the pilot signal at daybreak.

During the day, the following signals are applicable:

- 1. The national flag, surrounded by a white border, displayed at the foremast head.
- 2. The pilot signal UC of the International Code of signals.
  - 3. Flag G of the International Code of Signals.
- 4. The distant signal, consisting of a cone point up, with two balls above.

During the night, the following signals are applicable:

- 1. A blue light every 15 minutes.
- 2. A bright white light flashed or shown just above the bulwarks at frequent intervals for 1 minute.
  - 3. The signal by G lamp.

The answering signals made by the lookout station at Ujung Pandang are given in the accompanying table.

**Anchorage.**—Anchorage may be taken in the outer anchorage, 0.25 mile W of the breakwaters, in depths of 17.4 to 23m. The embarking/disembarking of passengers or loading/unloading cargo is prohibited in this anchorage.

The anchorage between the town and the line of coral reefs W is protected and the holding ground is good, in depths of 12.8 to 18.3m. After the request is approved by the local authority, vessels may anchor within the breakwater in depths of 16m or less.

**Caution.**—A detached shoal, with depths of 2.7 to 3.6m, lies 0.25 mile SSE of the sandflat on Pulau Lae Lae Kecil.

It was reported that the channel S of the breakwater has not been dredged for many years and was blocked by fishing stakes.

# Pulau-pulau Sangkarang (Pulau-pulau Pabbiring) (Spermonde Archipelago)

**7.13** The banks, rocks, and islands that comprise Pulaupulau Sangkarang are described in a S to N direction. Only those dangers that lie near a recommended channel will be discussed, the other many dangers may best be seen on the chart. The channels which provide access to Ujung Pandang are described in the following order:

Ujung Pandang—Lookout Station Answering Signals			
Day signal	Night signal	Meaning	
A black cylinder	A rocket	The vessel has been observed.	
The company or the national flag, or the vessel's name signal	A red light	The pilot is proceeding to the vessel.	
A ball, with two cones, points up, vertically disposed below it	Three lights, vertically disposed, with the upper one red and the other two white	The pilot is proceeding to the vessel.	
Two cones vertically disposed, bases together	A white light above a green light	Pilot not available; vessel may enter without a pilot.	

Ujung Pandang—Lookout Station Answering Signals		
Day signal	Night signal	Meaning
A ball with a cone below it, point up	A red light above a white light	Pilot not available; vessel may enter without a pilot.

- 1. South Channel.
- 2. Swept Channel.
- 3. West Channel.
- 4. Hoven Channel.
- 5. North Channel.

Pulau-pulau Sangkarang is an extensive area encumbered with coral islands, rocks, and banks which stand on a flat off the SW coast of Sulawesi. The banks and dangers extend about 82 miles in a N to S direction, and at their widest part, are 35 miles offshore. A great part of the outer edge is formed by a raised ridge of coral, which slopes abruptly into charted depths of over 200m.

Under favorable conditions it is plainly marked by discoloration.

The formation of the numerous islets and reefs in Pulaupulau Sangkarang is not constant, reefs grow into islets and islets disappear.

Shoals that were of no danger to shipping during the survey may have since reformed. Without local knowledge vessels should adhere strictly to the swept channel through the archipelago.

The only known danger outside the 200m curve in this part is **Taka Bakang** (4°58'S., 118°32'E.). This reef dries and can be seen at a distance of 5 miles at low water; it is marked by a light.

Winds—Weather.—In Pulau-pulau Sangkarang, a Southeast Monsoon and a Northwest Monsoon prevails. In July, August, and September, the "Brubu" or mountain wind is met. The approach of these squalls, which usually come in the forenoon, is generally marked by a heavy sky and the land becomes very indistinct. Frequently this wind sets in unexpectedly, the only sign of its arrival being a rippling of the water.

In the S part of the archipelago, the hazy SE wind is called "Tongora."

In October, the wind varies from SW to SE in the daytime and at night from SE to E. In November, it is very changeable, coming from all points. In December, January, February, and March, the Northwest Monsoon prevails, but blows with less force than the Southeast Monsoon, especially at night when opposed to land breezes.

**Tides—Currents.**—Within Pulau-pulau Sangkarang, there is no tidal current. Depending on the state of weather, a current toward the N or S may be expected.

Current along the outer edge of the bank sometimes causes heavy ripples, often having the appearance of breakers.

**7.14 South Channel to Ujung Pandang.**—The S channel comprises the wide channel which is clear of dangers, and leads N of Pulau Dayangdayangan and Selat Tanakeke.

This channel can be entered from the S through Selat Tanakeke, from the SW by passing between Pulau

Dayangdayangan and Pulau Satanga, and from the W by passing N of Taka Gosseya and Pulau Dayangdayangan.

The passage N of Taka Gosseya and Pulau Dayangdayangan is generally used both day and night by large vessels proceeding to and from Ujung Pandang.

Between **Pulau Dewakang-lompo** (5°24'S., 118°26'E.) and Pulau Dayangdayangan, a S current with a rate of 2 knots is sometimes experienced, even during the strength of the Southeast Monsoon. A vessel approaching from W should obtain a bearing on Pulau Dayangdayangan, which is usually visible from 10 miles.

**Bone Pinjing** (5°19'S., 119°13'E.), with a least charted depth of 5.8m, lies on the W side of the S approach channel, 5 miles NNE of Pulau Dayangdayangan. Bone Lure (Loere) with a least depth of 10m, Bone Kaluku (Kaloekoe) with a least depth of 8.2m, and Bone Pamalompo with a least depth of 8.2m lie 2 miles NW, 4 and 6.75 miles N, respectively, of Bone Pinjing.

The channel which leads to Unjung Pandang is entered between Bone Malonjo and Taka Sandkarang.

**Bone Malonjo** (5°14'S., 119°06'E.), lying 8.25 miles NW of Bone Pinjing, is a shoal with a least depth of 7.6m, and is 0.3 miles NW of Taka Sangkarang. Taka Sangkarang is a chain of reefs extending 20 miles NNW from its S end.

**Pulau Langkai** (5°02'S., 119°05'E.) lies on a drying reef midway along this chain of reefs, and is reported to be a good radar target when approaching from the W.

The buoyed channel is entered about 3.25 miles WNW of Bone Malonjo. The 1 mile wide channel leads ENE and passes N of Bone Pamalompo and Bone Pamakeke.

The channel narrows to a width of 0.25 mile and turns NE, passing E of Bone Pute (Bone Poete), and W of Pulau Kudingarenglompo (Koedingareng Lompo).

Keeping well clear of the reef, which is reported to be extending S, steer E passing S of Pulau Kudingarengkeke, then to Ujung Pandang.

Another section of swept channel leads ENE, also passing N of Bone Palalompo and Bone Pamakeke and S of Pulau Kudingarenglompo, turning NE to pass between Pulau Kudingarenglompo and Pulau Samalona, then turning E to pass N of Pulau Samalona, then to Ujung Pandang.

**Bone Pamakeke** (5°12'S., 119°13'E.), with a least depth of 8.2m, lies 1.25 miles NE of Bone Pamalompo.

Bone Pute, with a least charted depth of 3.5m, lies 1.25 miles NNW of Bone Pamakeke.

Pulau Kudingarenglompo, a low heavily wooded island, lies 4 miles NE of Bone Pamakeke. The island is visible 14 miles in clear weather. A fringing reef extends 0.25 mile from its N and W sides, and 0.75 mile from its S side.

A light is shown from a 17m high framework tower on the W side of the island. A dangerous wreck lies 3 miles N of the light.

**Pulau Kudingarengkeke** (5°06'S., 119°17'E.) lies on the NE side of a drying reef, 2.75 miles NNE of Pulau Kudingarenglompo.

**Caution.**—The buoys in this approach to Ujung Pandang are reported to be unreliable. A dangerous wreck lies near the entrance to the swept channel.

**7.15** West Channel to Ujung Pandang.—Pulau Lanyukang (4°59'S., 119°04'E.) lies 3.25 miles NNW of Pulau Langkai. The island, which is covered with palms, is visible 11 miles in clear weather and is marked by a light. It lies close within the charted 200m curve. On the edge of the bank the bottom may be seen in 20m, and a W current will cause heavy rips having the appearance of breakers.

In approaching the W passage from N or NW, the high trees on Pulau Langkai must not bear more than 137° until ready to turn E into the recommended tracks.

The navigation of the W channel, once inside the entrance, is not difficult as the islets on either side form fairly good landmarks and careful sounding gives warning of the approach to some of the dangers in the W part of this route.

The channel N of Pulau Lanyukang has the greater depth, but vessels must be guided through it by eye.

**Pulau Sarappo** (4°53'S., 119°16'E.), which has a noticeable tree in the middle, lies 12.75 miles ENE of Pulau Lanyukang. When the islet is seen and kept on a bearing of 070°, it leads through the greatest depth. When the W extremity of Pulau Lanyukang bears 180°, course may be gradually altered S to pass 1.25 miles E of this island. As soon as Pulau Kudingarenglompo bears 131°, steer for it. This leads to a position 0.3 mile N of **Batunai Balo** (5°04'S., 119°10'E.), a shoal patch with a least depth of 9m, located 5 miles SE of Pulau Langkai. Then follow the directions stated below for vessels entering S of Pulau Lanjukang.

**Pulau Lumulumu** (4°59'S., 119°13'E.) and Pulau Badi, 4.25 miles farther E, form a range bearing 084° which may be steered to enter the channel S of Pulau Lanjukang.

When the W extremity of Pulau Langkai bears 180°, steer for Pulau Kudingarenglompo bearing 131°, as previously directed.

When the E side of Pulau Lumulumu is in line with the high tree on Pulau Sarappo, bearing 028°, steer for Pulau Kudingarengkeke on course 110°. This leads between Batunai Balo and Siborong, a shoal patch with a least depth of 8m, that lies 1 mile NE.

When Pulau Kudingarenglompo bears 142°, steer 124° until the NW side of Pulau Kudingarengkeke is in line with the SE side of Pulau Barang-keke, a high wooded islet lying 2.25 miles NE, and the E side of Pulau Kudingarenglompo bears 189°. Then steer 104° to pass S of Pulau Lae Lae Besar or steer 090° to pass N of Pulau Lae Lae Kecil to Ujung Pandang.

**Caution.**—Vessels with drafts in excess of 4.9m are advised to avoid using the West Channel.

**7.16 Hoven Channel to Ujung Pandang.**—Between the N end of Taka Sangkarang and **Pulau Kapoposang** (4°42'S., 118°57'E.), about 10 miles NNW, a chain of reefs are reported to lie close inside the charted 200m curve.

Pulau Kapoposang, a long narrow island planted with coconut trees, is located on an extensive drying reef. A light is shown from a 33m high framework tower; a racon also



#### **Pulau Kapoposang**

transmits from there, on the W extremity of the island. This island is important to vessels proceeding through the E side of Makassar Strait, outside of the archipelago.

Papandangang, 1.25 miles SE of Pulau Kapoposang, is low but owing to the high trees on it, is visible 10 miles in clear weather. Pulau Kondongbali, 4.75 miles E of Papandangang, is located on a drying reef. A long ridge, which dries in places, lies between these two islets.

**Pulau Tambakulu** (4°44'S., 119°03'E.), 1 mile S of Pulau Kondongbali, is covered with low scrub. Taka Luwar, a drying reef with a small sand cay, lies 3.25 miles SW of Pulau Tambakulu.

The navigation of Hoven Channel presents no difficulties as the channel has a least depth of 20m, wide, and has good marks for fixing the position of a vessel.

The usual entrance channel for deep draft vessels lies SW of Pulau Kapoposang. Small vessels may also enter E of Papandangang.

To enter the channel SW of Pulau Kapoposang, steer for the N extremity of Pulau Papandangang in line with the S extremity of Pulau Kondongbali, bearing 089°.

When the W extremity of Pulau Kapoposang bears 000°, alter course to 112°, passing S of Papandangang.

A vessel with local knowledge entering the channel E of Papandangang, passes about 0.35 mile E of that islet on a course of 180°, which leads over a shoal patch with a least charted depth of 8.2m. When the W point of Pulau Kapoposang comes in range with the NE point of Papandangang, bearing 306° astern, keep this alignment until the drying sandflat on the reef extending NW from Pulau Tambakulu is in line, bearing 056° with Pulau Pamangangang, 4.75 miles NE. Then course is altered to 112° and meets the track recommended to pass SW of Pulau Kapoposang.

When the W extremities of Pulau Kondongbali and Pulau Tambakulu are in line, bearing 000°, alter course to 118° for Pulau Sarappo. This course leads to the narrowest part of the passage, between **Taka Tengah Tengah** (4°50'S., 119°08'E.), a shoal patch reportedly extending N with a least depth of 3.1m, and a shoal with a least depth of 4.7m, located about 0.75 mile NNE. In this area attention should be paid to the current which may be setting across the track. When the opening between Pulau Kondongbali and Pulau Tambakulu bears 319°, make good course 139° until Pulau Sarappo bears 090°, course is

then altered to 146°; Pulau Kondongbali and Pulau Tambakulu disappear from sight here.

**Kassi** (4°54'S., 119°10'E.) is located on the W side of the track and a 9m patch lies on the E side of the track.

When Pulau Lumulumu and Pulau Lanjukang form a range, bearing 268°, steer for the SW side of Pulau Barang-keke, 8.75 miles SSE, bearing 150°. When the S extremity of **Pulau Barang-lompo** (5°03'S., 119°20'E.) bears 090°, alter course to 126°, steering between Pulau Barang-lompo and Pulau Barang-keke. This course will lead to the channel N of Pulau Lae Lae Kecil.

**Karangan** (4°26'S., 119°12'E.), the NW island of the archipelago, is little more than a sand cay.

**Pankamandra** (4°17'S., 119°17'E.), a shoal patch 11 miles NNE of Karangan, is the N extremity of the known reef. Pankamandra Light is shown from a 15m high beacon, situated 7 miles NE of **Taka Bulango** (4°22'S., 119°12'E.), which is the NW extremity of the known reef.

A rock, whose charted position is approximate, lies outside the 200m curve, 8.25 miles N of Karangan. There is another rock that lies about 8 miles N of Karangan.

**7.17 North Channel to Ujung Pandang.**—The N Channel to Ujung Pandang leads in a generally S direction, no more than 2.25 miles offshore. The channel, which is marked by beacons, has a least depth of 5.5m, but the depths in the channel vary between 7.6m and 18.3m.

The NW portion of Kepulauan Pabbiring has not been fully examined. It is suggested that vessels making for this passage from NW must not approach the entrance unless a reliable position has been obtained well outside the 200m curve. Vessels should possess local knowledge and have the sun in a position favorable for seeing discoloration before attempting to navigate the North Channel.

**Pulau Panikiang** (4°21'S., 119°36'E.) is a low, wooded island lying 1 mile W of the Sulawesi coast. The N entrance to the channel lies between a number of reefs extending 1.25 miles W from this island and Tomisa, a reef with a depth of 3.7m, 3 miles W. This reef is marked by a beacon.

In approaching N channel, steer 179° for a position about 0.75 mile E of the beacon on Tomisa. Then make good course 197° for 8 miles to a position 0.6 mile E of Labutung (Laboetoeng), a reef which mostly dries. A stranded wreck is situated on the N side of the reef. Angin Bau Laut (Angin Baoe Laoet), below-water, lies 4.25 miles S of Tomisa and is the nearest reef to the track on the E side.

When abreast **Labutung** (Laboetoeng) (4°29'S., 119°30'E.), and with the thickly-wooded Pulau Puteanging (Pulau Poeteanging) close under the Sulawesi coast, bearing 104°, steer 212°.

With **Batu Pankaya** (Batu Pankaja) (4°36'S., 119°24'E.), a 1.2m shoal patch bearing 284°, 2 miles, the charted channel divides. The E channel of these two is described here.

From a position ESE of Batu Pankaya with **Pulau Sakoala** (4°40'S., 119°30'E.), a palm covered islet 5 miles, bearing 130° or Bulu Tanette, bearing 088°, make good course 185°.

**Pulau Sabutan** (Sabutang) (4°45'S., 119°26'E.) lies on the W side of the above track. The beacon about 2.25 miles N of Pulau Sabutan, in line with the W side Laya (Laja), a wooded

islet about 4 miles S of Pulau Sabutan, forms a good range for the 185° leg described above.

As soon as Pulau Salemo, 4 miles NNE of Pulau Sabutan, bears 107°, a beacon on a reef 1.25 miles SSE of Pulau Sabutan, and a beacon situated 3.75 miles farther S, should be brought into line, bearing 174°. When abreast the S extremity of Pulau Sabutan, course is changed to 180°. This course leads through a channel 0.2 mile wide between steep-to reefs.

When through this narrow channel and the NE extremity of **Pulau Bankobankoang** (4°47'S., 119°26'E.), is in line with the W extremity of Pulau Sabutan, bearing 341°; steer 161°, keeping the 341° range astern.

When the beacon on the W reef of Taka Tallu, 4 miles SSE of Pulau Bankobankoang, bears 181°, steer for it.

The beacon on Taka Tallu stands about 35m inside the W reef and should be left 0.2 mile to the E. Then bring it astern, bearing 001°, and steer 181° until the beacon on **Batu Lua** (4°59'S., 119°27'E.), 9 miles S of Taka Tallu is sighted. When about 0.2 mile N of the beacon on Batu Lua, alter course to pass NW of it on a SW course. It will often be more convenient to pass S of Batu Lua, especially with good visibility and a S current.

After passing the beacon on Batu Lau, bring it astern bearing 032°, and keep the beacon on this bearing until the stone beacon on Gosong Barimbaringang, 4.25 miles SSW of Batu Lua, bears 182°, then course should be altered to 173°.

**7.18 Pulau Balang-cadi** (Pulau Balang-tjadi) (4°57'S., 119°25'E.), a wooded island located 3 miles NW of Batu Lua, should be kept well open W of Mauang, a small islet 1 mile SSE of Pulau Balang-cadi, while on the 173° track.

The beacon on Gosong Barimbaringang may be passed at a distance of 0.3 mile, and when bearing about 270°, alter course to 210°. Past Gosong Barimbaringang, the depths gradually decrease to 6.4m over a ridge of mud and sand extending from the Sulawesi coast.

When **Bone Malalaya** (Bone Malalaja) (5°05'S., 119°24'E.), 1.75 miles SSW of Gosong Barimbaringang, is abeam, alter course to 202°, passing E of Gosong Trabanusu and Gosong Panyoa (Gosong Panjoa) in depths of 11 to 20.1m, then steer for the roadstead. Gosong Trabanusu lies 1 mile and Gosong Panyoa lies 1.75 miles SSW; respectively, of Bone Malalaya.

An alternative route to Ujung Pandang from the vicinity of Taka Tallu, following deeper water than the previously described route, was surveyed many years ago. From a position 0.6 mile N of the beacon on Taka Tallu, steer 225° for 3.75 miles to a position 1 mile SE of the S point of Pulau Karanrang (4°52'S., 119°23'E.). A 5.9m patch lies 0.6 mile W of this position. Then steer course 208° for 5.75 miles, passing about 1.25 mile SE of the lighted beacon (port hand) shown from a mast 15m high on the N side of Batu Bajangang, about 1 mile ESE of Gosong Podang Keke. A drying reef lies 3.25 miles SSE of Pulau Karanrang and 0.6 mile WNW of Batu Posienja, a drying reef. When 0.25 mile NW of the lighted beacon marking Bone Penambungang, a small 4.9m patch, alter course to 186° for 5.75 miles, passing about 0.4 mile E of Padjenekang Keke, a patch of drying reef. When midway between **Pulau Barang-lompo** (5°03'S., 119°20'E.) and Bone Lola, a patch of drying reef 1.25 miles E, steer SSE for Ujung Pandang.

A 15.9m patch lies 2.25 miles S of Bone Lola in the center of the mine-swept channel.

Between Ujung Pandang and **Ujung Panreng** (4°21'S., 119°37'E.) about 49 miles N, there is a densely populated, cultivated, and wooded strip of land backing the coast, 10 miles wide at the S end and decreasing to 1 mile wide at the N end. Behind this coastal strip there is a range of high mountains.

The whole stretch of coast is fronted by a bank of varying width, which is wider in the S part. Several reefs, sand banks, and islets lie on or near this coast. Some of the reefs and islets have previously been discussed with the channels through the archipelago. This stretch of coast is of no importance to general shipping and is not described in detail.

Between Ujung Pandang and Pulau Kuricaddi, 6.25 miles NNE, the coast is low and swampy except at the N entrance point of Jene Tello (Djene Tello), 3 miles ENE of Ujung Pandang.

**Pulau Kuricaddi** (5°02'S., 119°28'E.), a rocky islet separated from the coast by a creek, has a conspicuous tree located on its W coast. Pateene (Boeloe Karampoeang), a sharp conical peak 2.25 miles SSE of Pulau Kuricaddi, also has a conspicuous tree.

Tanjung Kasi, 4 miles NNE of Pulau Kuricaddi, is the N entrance of a small, shallow river. The point is marked by a coconut grove.

Sungai Binangasangkarang, the deepest river along this coast, is entered 4.25 miles N of Tanjung Kasi. Its entrance is fronted by a sand bar, through which there is a channel with a depth of 1.4m.

Between Tanjung Kasi and Tanjung Tua, 12 miles N, in addition to Sungai Binangasangkarang, there are several other rivers that empty into the sea. Bulu Bulu, a wooded hill with high trees visible 12 miles, is located on the coast 8 miles N of Tanjung Kasi. The hill appears as an island when seen from offshore.

Bungoro Peak is located 2 miles NE of Bulu Bulu. It is in the W part of a mountain range that extends toward the E.

**Biringkasi** (4°49'S., 119°29'E.), 3 miles S of Tanjung Tua, is a special harbor for loading cement. Vessels of 5,000 dwt can dock here. There are two wharves: Wharf No. 1 is 209m long with a depth of 7m alongside. Wharf No. 2 is 40m long with a depth of 2.4m alongside.

A pilot is available.

**Tanjung Kasikebo** (Tanjung Kasikkebok) (4°42'S., 119°31'E.), 4 miles NNE of Tanjung Tua, is rocky. Bulu Tanette, 510m high with a sharp summit, rises 10 miles NE of Tanjung Kasikebo. Tanjung Lajari (Tanjung Ladjar) is located 17.25 miles N of Tanjung Kasikebo. Sumpangbinangae is a town standing at the mouth of a river, 1 mile NE of Tanjung Lajari.

Ujung Panreng, located 5.25 miles NNE of Tanjung Lajari, is fronted by Pulau Panikiang, an island previously discussed in paragraph 7.17.

**7.19** Between Ujung Panreng and Tanjung Bulo the coast trends in a generally N direction for about 50 miles, then in a W direction for 30 miles to Tanjung Rangasa. There are some isolated peaks of importance which will be described. The

200m curve lies from 0.25 mile to 5 miles offshore along this coast

Between Ujung Panreng and Tanjung Pakangsiponge, 7 miles NNW, the coast is hilly and indented by numerous small bays.

From **Tanjung Pakangsiponge** (4°14'S., 119°36'E.) to Tanjung Tonrangang, 11 miles N, the coast is hilly and indented by small bays, with no dangers charted outside the 200m curve.

Bulu Kerikeri, a conspicuous peak 769m high, rises 6 miles E of Tanjung Pakangsiponge. Batu Tolong (Keghoek), 285m high, rises 1.75 miles SSE of Tanjung Tonrangang. It is steep on its E and SE side, but slopes gradually on its NW side. Batu Kiki (Batoe Kiki), 1.25 miles E of Tanjung Tonrangang, is fairly conspicuous and can be recognized by the small crowntopped trees on its summit.

**Tanjung Tonrangang** (4°03'S., 119°37'E.), the E entrance of Teluk Parepare (Parepare Baai), is low with shoal water extending about 0.4 mile offshore. A shoal patch with a depth of 15.8m, lies 0.6 mile WSW of Tanjung Tonrangang.

Tanjung Lero, the W entrance point to Teluk Parepare, lying 1.25 miles WNW of Tanjung Tonrangang, is a low, reef-fringed point covered mostly with trees, forming the S end of a peninsula. A light is shown from an 8m white metal tower painted with red and white bands situated on the S edge off the reef, about 0.3 mile S of Tanjung Lero.

Teluk Parepare is divided into two parts by a narrow passage. The inner bay is known as Teluk Supa (Soepa Baai). Depths in the outer part of the bay vary from 16 to 54m. Depths in the E part of the inner bay vary between 5.7 and 12.5m. The W part in the inner bay is shallow and encumbered with islets. Tidal currents may attain 2 knots in the narrow passage between the inner and outer bays.

The bay is used as a port-of-call for cruise liners and for export of livestock. A terminal is planned for construction.

**7.20** Parepare (4°01'S., 119°37'E.) (World Port Index No. 52330) is a port of call situated within the entrance of Teluk Parepare. The village, situated on the E side of the narrows, is an administrative center. Parepare is used as a port of call for cruise liners and for the export of livestock. A light is shown from shore about 0.25 mile S of Parepare.

**Depths—Limitations.**—There are two concrete wharfs, 35m and 110m in length, respectively, with depths of 8m and 15m alongside. Vessels up to 12,000 dwt, with a maximum length of 160m can be accommodated. An oil berth, with a depth of 8.1m alongside is operated by Pertamina, and lies within Teluk Supa. Two large oil tanks stand close SE of the berth. A 20m wooden wharf, with a depth of 3m, is also available in the N suburb of Ujunge.

**Pilotage.**—Pilotage is compulsory for vessels over 150 grt and should be requested via the Harbor Master. Pilots board at Batu Laubang Lighted Buoy. A port radio station exists at Parepare

**Anchorage.**—A good sheltered anchorage exists about 0.75 mile SW of Parepare, in a depth of 20m.

**Directions.**—From the S, steer for Tanjung Lero in line with the hill on the W side of the narrows, bearing 019°. Then pass 0.3 mile E of the light, S of the cape. The reef is marked by discoloration. Steer 015° until the E entrance point, Teluk

Supa, bears 029°, then steer for it. This is the safe course to the anchorage.

From the N, a vessel will remain in deep water by keeping **Pulau Baki** (4°09'S., 119°36'E.) in line with Bulu Alipang (Boeloe Alipang), bearing 160°. The W side of the coastal reef extending from Tanjung Lero is not marked by discoloration. When Batu Kiki bears 090°, steer for it until Tanjung Lero is in line 019° with the hill on the W side of the narrows, then steer NNE to pass not less than 0.3 mile E of Tanjung Lero.

**7.21** The coast N of Tanjung Lero is low and covered with vegetation. Batu Manarang, 133m high, is a conical hill that lies 11 miles NNE of Tanjung Lero.

**Tanjung Salipolo** (3°43'S., 119°26'E.), the S entrance point of the delta of Sungai Sadang, lies 21 miles NNW of Tanjung Lero and is covered with tall trees. Batu Paletiang, a conical hill 156m high, rises 12 miles ESE of Tanjung Salipolo.

Tanjung Babana, 2 miles N of Tanjung Salipolo, is the N entrance point to the delta of Sungai Sadang. The delta of this large river is covered with trees and swamp land. Its main entrance, which is obstructed by a low island, lies close to Tanjung Salipolo.

Anchorage may be obtained, by vessels with local knowledge, off the N and S entrance of Sungai Sadang.

**7.22 Teluk Mandar** (Golf Van Mandar) (3°37'S., 119°16'E.) is entered between Tanjung Paria and Tanjung Rangasa (Cape Mandar), 31 miles WNW. Teluk Mandar is backed by several conspicuous mountains. Bulu Tirasa, 960m high, rises 11.25 miles ENE of Tanjung Paria. It is sometimes visible 24 miles and the higher mountain land begins to approach the coast from this peak.

**Tanjung Kajoeangin** (Tanjung Kajuangingge) (3°36'S., 119°29'E.), 5 miles N of Tanjung Paria, may be identified by a group of high trees and a single outstanding tree.

Pajalele (Padjalele), a large village, stands on the coast 6 miles N of Tanjung Kajoeangin. Bulu Letta (Boentoe Letta), 1,600m high, rises 7 miles ENE of Pajalele. Bulu Puang (Boentoe Poeang), 1,091m high and Bulu Pusu (Boentoe Poesoe), 1,230m high, lie 3.25 and 6 miles NNW, respectively, of Pajalele. Bulu Pusu is saddle shaped and is more prominent from S than W; its NW peak is highest.

**Pasi Tangan** (3°37'S., 119°26'E.), with a depth of 0.3m, lies 2.75 miles W of Tanjung Kajoeangin and is seldom marked by discoloration. A 0.9m patch lies 1.25 miles SSW of Pasi Tangan, and a drying patch lies 1 mile further to the SW.

Several reefs, including Mencerai (Mentjerai) with a depth of 2.1m, 3 miles SW of Pajalele, lie within a line joining Tanjung Kajuangin and Pulau Batuwae (Pulau Batoae), 10 miles NNW. Unless thoroughly familiar, this part of the bay should be avoided.

**7.23 Polewali Road** (3°28'S., 119°20'E.) is entered between Pulau Batuwae and Tanjung Lakolako, 5 miles WNW. Polewali Light stands at a height of 14m in position 3°26.4'S, 119°20.4'E. Pulau Battowae, a prominent wooded island 96m high, lies close offshore 7 miles WNW of Pajalele. Pulau Battowae has a drying reef which extends 0.75 mile from its S side and 2.25 miles from the W side. A beacon stands on the W end of this reef, and another beacon stands on the E end of a

detached, extensive drying reef 0.75 mile W. Other detached reefs, which may be seen on the chart, lie within this line of reefs.

Polewali Road is bounded by the arc of a circle, with a radius of 1.1 mile from the flagstaff at Polewali, a village 2.25 miles NNW of Pulau Batuwae.

To enter the passage that leads to Polewali Road, steer for Pulau Batuwae in line with Bulu Puang, bearing 073°, until Bulu Saluwatan (Bulu Saloewatan), 7 miles N of Pulau Batuwae, bears 021°; the latter bearing leads between the reefs at the entrance to the bay. Inside the bay, course may be set as prudent, for the anchorage off the village of Polewali or for anchorage in the W part of the bay, in about 18.3m of water, mud, and sand.

**Tanjung Buku** (Tanjung Boekoe) (3°30'S., 119°12'E.), 9.25 miles W of Pulau Batuwae, is one of the three points which are conspicuous and lie between Pulau Batuwae and Tanjung Rangasa. Buku (Boekoe), a village, stands 0.25 mile NE of Tanjung Buku. Bulu Tenggelang, a summit 660m high, rises 13 miles N of Tanjung Buku.

Tanjung Labuang (Tanjung Laboehan) is a steep, rocky point 5.25 miles WSW of Tanjung Baku. Lapu (Lapoe) stands on the W side of the entrance to a river, about 1.75 miles NE of Tanjung Labuang.

Temporary anchorage may be taken in a small bay E of the river's mouth, or about 0.3 mile offshore in a depth of 16m, SE of Lapu.

Tanjung Karama lies 4.25 miles W of Tanjung Labuang and Tanjung Bauru (Tanjung Baoeroeng), a low point covered with high trees, lies 4 miles SW of Tanjung Karama.

Sungai Mandar enters the sea 1 mile W of Tanjung Karama. The town of Para stands on the W side of the entrance to Sungai Mandar. A bank extends 1 mile S from the shore on the E side of the river entrance. Close S of the bank is a below-water coral pinnacle and a drying rock. Small vessels anchor in a depth of 7m, mud and sand, close S of the pinnacle rock, 1.1 miles SSE of the entrance to Sungai Mandar. The holding ground is bad and in a Southeast Monsoon, the anchorage is often untenable.

Majene Road (Madjene Road) is entered between Tanjung Bauru and Tanjung Rangasa, 3.75 miles W. The roadstead lies at the head of the bay.

The village of Majene (Madjene) is situated at the head of the bay, on the E bank of a river which enters the sea here. A light is shown from a 6m high white metal tower on the pier head at Majene.

The roadstead is sheltered from W winds and there is anchorage in 27 to 31m, sand, in a break off the village; however, there is only room for one small vessel. Ships may anchor SE of this position, on the edge of the reef, in depths of over 37m. A reef extends about 0.35 mile offshore from a point on the W side of the river.

**7.24 Tanjung Rangasa** (Cape Mandar) (3°35'S., 118°56'E.), low and covered with coconut palms, rises gradually to a mountain range which can be seen for a considerable distance. Rangas is a small village situated on the SW side of the point. Taka Sitodong extends 0.35 mile S of this point. A light is shown from a 21m white metal framework tower, and a racon and radiobeacon transmit from the light,

which is situated on the W side of the point. The 200m curve lies 0.6 mile offshore.

The coast between Tanjung Rangasa and Tanjung Lereh, 95 miles N, has high land approaching it fairly closely, but the points are low. There are few prominent features among the mountainous hinterland along this stretch of coast. The charted 200m curve lies close to this coast with no dangers outside it.

Pambauang Road (Pambaoeang Road) lies in a small bay 5 miles N of Tanjung Rangasa. It affords sheltered anchorage within the high rocky points in the Southeast Monsoon. The best anchorage is in the S part of the bay, in depths of 21 to 31m, soft mud. A conspicuous house is situated N of the village.

Anchorage is available off the villages of Binanga and Cinrana (Tjenrana), situated in bights about 9 and 11 miles, respectively, N of Pambauang Road. The anchorage off Binanga is in about 37m. The reef N of this bight dries out about 0.3 mile, and coming from N, the anchorage must not be steered for until Binanga bears 090°. The anchorage off Cinrana, in 29 to 33m, mud, is in the S part of the bay E of Pulau Taimanu (Pulau Taimanoek), and affords some protection in the Northwest Monsoon.

**Pulau Taimanu** (3°19'S., 118°51'E.), about 30m high and wooded, is conspicuous. The N part of the island should not bear more than 272° from the anchorage. In the center of the bay, N of the island, are two reefs with a least depth of 9m.

**7.25 Tanjung Ongkona** (3°05'S., 118°47'E.), 15 miles NNW of Cinrana, is the low extremity of a high and well defined peninsula covered with trees which stand in the water at high tide. In the small bay E of Tanjung Ongkona there is anchorage in 29 to 35m, sand, about 0.2 mile offshore.

Teluk Lebani is entered between Tanjung Ongkona and Tanjung Kai (Tanjung Dongkait), 13 miles N. In this bay the 200m curve runs close to the shore and affords little opportunity for anchoring.

Tanjung Kai is low and covered with mangroves. A reef, which dries, extends approximately 1.25 miles SSW of the point and is usually marked by discoloration. This reef was reported earlier to be extending.

The coast from Tanjung Kai to Tanjung Rangas (Kaap William), 15 miles NNE, is high, steep, and fronted by a narrow reef. Tanjung Rangas is low, but rises to high land within.

A light is shown from a white metal framework tower, 21m high, which stands 0.9 mile SW of the point.

**Teluk Mamuju** (2°36'S., 118°54'E.) is entered immediately E of Tanjung Rangas and is divided into two parts by Pulau Mamuju (Mamoedjoe), a high and thickly wooded island not easily seen from N or NW. The passage between the S extremity of Pulau Mamuju and the shore is not recommended for large vessels. A large drying reef, with a small tree 0.2 mile from its S end, lies between Pulau Mamuju and the shore to the S. Several villages line the S shore of the bay. Mamuju, the seat of the administrative authority, is the largest village.

Anchorage may be taken NW of Mamuju.

Teluk Mamuju was reported to be closed to foreign shipping.

**7.26 Tanjung Mamuan** (Tanjung Mamoean) (2°35'S., 119°00'E.), a reef-fringed point, lies 11.25 miles ENE of

Tanjung Rangas. A detached reef, which dries, lies 1.25 miles NW of Tanjung Mamuan.

Tanjung Kaluku (Tanjung Kaloekoe) lies 5 miles NNE of Tanjung Mamuan, and Pulau Bekangkeng (Topisee) (Liutang) lies 5.25 miles ENE of Tanjung Kaluku. Pulau Bekangkeng, 75m high, is a thickly wooded prominent island.

**Sampaga** (2°18'S., 119°08'E.), a village with a prominent mosque, stands 10 miles N of Pulau Bekangkeng. Sungai Karama enters the sea close N of the village. Anchorage may be taken, by vessels with local knowledge, off the entrance to Sungai Karama.

The village of Buding Buding (Boeding Boeding) is situated on a river of the same name, 14 miles N of Sungai Karama. Anchorage may be temporarily taken, by vessels with local knowledge, off a projecting part of the coastal reef, 0.25 mile off the entrance to the river, in a depth of 26m. The depths off the entrance are too deep for anchoring.

**Tanjung Lereh** (Tanjung Lalereh) (2°00'S., 119°12'E.), 4.75 miles N of Buding Buding, is low and covered with trees standing in water.

Between Tanjung Lereh and Tanjung Pasangkayu, 50 miles N, the appearance of the coast is similar to that S, but there are more prominent summits near the coast and some of the points are more noticeable.

From Tanjung Pasangkayu to Tanjung Karang, 40 miles farther NE, the high land approaches close to the coast, but the points are low with trees standing in the water. A strip of hilly land, which gradually becomes more narrow toward its N end, lies between the high mountains and the coast. There are only a few villages between Tanjung Pasangkayu and Tanjung Karang.

**Pulau Tobintah** (1°56'S., 119°20'E.), a conspicuous island 148m high and thickly wooded, is located close offshore 7.25 miles ENE of Tanjung Lereh. There is anchorage for vessels with local knowledge in 26m, mud, 0.35 mile W of Pulau Tobintah. There are numerous detached coral reefs, all steep-to and seldom marked by discoloration, lying within the charted 200m curve between Pulau Tobintah and Tanjung Cinoka, 15 miles N.

**Tanjung Cinoka** (Tanjung Tjenoki) (1°41'S., 119°17'E.) rises steeply to a round hill covered with trees.

The coastal reef extends 1 mile W from the point.

**7.27 Tanjung Memanjing** (Tanjung Memandjing) (1°39'S., 119°17'E.) lies 2 miles N of Tanjung Cinoka. The coastal reef extends 1.25 miles N from Tanjung Memanjing. A similar reef extends 0.25 mile N from a point 0.75 mile NE of Tanjung Memanjing. Anchorage, protected by the above reefs, is available off the village of Doda, situated 1.25 miles NE of Tanjung Memanjing.

Sungai Lariang enters the sea about 14 miles N of Tanjung Memanjing and can be identified by the conspicuous hill, 6.25 miles NE of its mouth. The coast is low, sandy, and wooded in this vicinity. The coastal bank, S of the river entrance, is steepto and vessels should keep outside the charted 20m curve. A reef, which nearly dries, lies on this bank 2 miles SW of the entrance to the river.

Anchorage may be taken, by vessels with local knowledge, 0.6 mile W of the river's entrance.

**Tanjung Pasangkayu** (Tanjung Passangkajoe) (1°10'S., 119°20'E.), marked by a light, is a low point located 15 miles N of Sungai Lariang. The coastal reef dries for a distance of 0.4 mile NW of the point.

Teluk Pasangkayu (Pasangkajoe Baai) is entered between Tanjung Pasangkayu and Tanjung Baku (Tanjung Bakoe), 3.25 miles NE. The reef-filled bay provides anchorage, protected from E winds, close off its S shore in depths of 18m.

**Tanjung Karang** (0°38'S., 119°44'E.) is a high, rectangular, broad spit of land located 36 miles NE of Tanjung Baku. A 103m hill is located at the NW extremity of this spit of land and is easily recognized from sea.

A light is shown from a 21m high white metal framework tower standing on the slopes of the hill, 0.25 mile W of the point.

The only landmarks on this stretch of coast are Loli, 2,046m high, and a 1,089m peak, located 15 miles SSE and 7 miles SSW; respectively, from Tanjung Karang.

Tanjung Balesa (Tanjung Towali), located 6 miles SW of Tanjung Karang, can only be identified when close to the coast. There is a noticeable tower on the seaward side of the point.

Towali lies 1.25 miles NW of Tanjung Balesa and consists of two sand cays, barely marked by discoloration when covered.

There are several charted shoal patches between Towali and Tanjung Karang, 6.25 miles NE. Vessels should not pass between these dangers and the coast.

**Teluk Palu** (Paloe Baii) (0°45'S., 119°49'E.) is entered between Tanjung Karang and Tanjung Towayo (Towajo), 4 miles NE. The depths in the bay are great and there is anchorage only in the slightly indented bays on either side, and off the village of Palu, situated at the head of the bay, 16 miles SSE of Tanjung Karang. The W side of the bay runs steeply up from the sea. The hills, which are near the coast, increase in height from the summit on Tanjung Karang to Loli. On the E side there is a hilly belt of land about 3 miles wide, which merges into the mountain ranges beyond that rise to a height of 1,829 to 2,134m. At the head of the bay, rice fields on a plain that rises slowly, stretch far into the interior.

**7.28 Donggala** (0°40'S., 119°45'E.) (World Port Index No. 52350) stands on the W bank of Teluk Palu, 1.25 miles SSE of Tanjung Karang. The village is the site of an administrative headquarters. The customs house is the largest building in the village. A large warehouse stands 0.15 mile SE of a wharf that is about 20m long.

**Pilotage.**—Pilotage is not compulsory. Vessels should send their ETA to their agent 10 days, 3 days, 48 hours, and 24 hours prior to arrival.

**Anchorage.**—Anchorage is available, in 32m, about 0.2 mile offshore, with a hill SW of the village bearing about 240°. A less desirable anchorage is in 44m, with the center of the village bearing between 204° and 261°, the bank here is quite steep. Small craft can anchor in 20m off the middle of the river. It should be noted there is foul ground charted near the anchorages.

Teluk Kabungakodi is a reef-filled basin that lies 2 miles S of Donggala. There are two deep basins which are accessible to small vessels with local knowledge.

Palu (Paloe) is a large village on the W bank of a river at the head of Teluk Palu. Shoal water extends about 0.7 mile

offshore W of the village. The usual anchorage is in the E side of the bight near the landing stage situated on the coast, about 1 mile NE of Palu.

**Loliogeh** (0°48'S., 119°49'E.), 5 miles N of Palu, is a tanker terminal. It contains a 50m long wharf which has depths of 7 to 8m alongside. Vessels up to 10,000 dwt can be accommodated.

Between Palu and the village Wani, on the E side of the bay, 11.25 miles N, there are two anchorages for small vessels. One anchorage is off the village of Mamboro, 5.25 miles N of Palu, in a depth of 27m, mud and sand, and the other is off Panteluan, about 5.25 miles N of Mamboro. The anchorage here is in 35m, sand and stones.

At **Wani** (0°41'S., 119°50'E.), there is anchorage, in 49m, sand, coral and stones, with the beacon situated SE of the village bearing 085° and a beacon W of the village bearing 334°.

**7.29 Pantoloan** (0°42'S., 119°51'E.) lies at the head of a small bay on the E shore of Teluk Palu. The port consists of a roadstead anchorage with cargo being loaded and discharged alongside using lighters or barges, and a T- shaped jetty 150m long with an alongside depth of 8.4m. Vessels up to 20,000 dwt, with a maximum length of 160m and a maximum draft of 10m, can be accommodated at the anchorage. Pilotage is available.

Between Tanjung Towajo and Tanjung Manimbaya, 38 miles NNE, the coast is steep and sparsely wooded. The high mountains in the interior are visible from a great distance in clear weather, but have no prominent summits.

**Tanjung Labea** (0°09'S., 119°48'E.), 27 miles N of Tanjung Towaja, is a prominent point that rises to a height of 351m a short distance inland.

Labuhan Labea (Labea Anchorage), entered NW of Tanjung Labea, affords good anchorage in 55 to 73m, sand.

Batu Mekaja (Mekadja), a coral reef which dries and is usually marked by discoloration, lies about 0.25 mile offshore, 3 miles W of Tanjung Labea. A 10.5m patch lies outside the 200m curve, 3.25 miles SW of Tanjung Labea.

**Tanjung Manimbaya** (Tandjoeng Manimbaja) (0°00'N., 119°36'E.), 15 miles NW of Tanjung Labea, is the NW extremity of a high rocky peninsula. A light is shown from a height of 50m, close E of the point.

The SW coast of the peninsula terminating in Tanjung Manimbaya should not be approached nearer than 1 mile.

Teluk Beleisang (Balesang Baii) is entered between Tanjung Manimbaya and Tanjung Bau (Tanjung Baoe), 3.75 miles ENE. Anchorage ,in a depth of 49 to 55m, sand, may be taken off the village of Popodi that lies at the head of the bay.

Pasie Perombian, 2.75 miles WNW of Tanjung Manimbaya, is a steep-to coral reef which dries. When covered it is usually marked by discoloration.

**7.30 Pulau Pasoso** (Zuidwachter) (0°06'N., 119°37'E.), 5.25 miles N of Tanjung Manimbaya, is a densely-wooded island, 108m high, visible about 24 miles.

The fringing reef extends 0.75 mile from the S side of the island. Anchorage may be taken with local knowledge in a basin on the S side of the island, in depths of 46 to 55m.

Teluk Tambu (Bocht Van Tamboe), a deep bay encumbered by eight small islets, is entered between Tanjung Bau and Tanjung Dampelas, a low sandy point, 13 miles NNE. Bukit Balesang, 675m high, and Bukit Pomalulu (Pomaloeloe) 558m high, 4 miles and 8.75 miles, respectively, SE of Tanjung Bau.

Pulau Laut (Laoet), 89m high, the N islet of the group located in Teluk Tambu, lies 7.25 miles SE of Tanjung Bau. The islet lies on a detached reef which mostly dries. The other islets of the group are separated from Pulau Laut by a channel 0.25 mile wide and are on a steep-to drying reef.

**Anchorage.**—Anchorage may be taken, in a depth of 55m, off the village of Pomalulu (Pomaloeloe), 4 miles SW of Pulau Laut, and in a depth of 35 to 46m, in a small bay off the village of Sibayu (Sibajoe), 8.25 miles NE of the same islet.

**Caution.**—Several isolated coral reefs are charted along the E shore of the bay, from the village of Seweili to Sibayu, 6.75 miles NNW.

**7.31 Tanjung Dampelas** (0°13'N., 119°46'E.), 8.25 miles NW of Sibayu, rises from its sandy shores to a hill 1.25 miles E.

The coast from Tanjung Dampelas trends in a general NNE direction for 56 miles to Tanjung Dondo, then NE 37 miles to Ujung Malangka, the NW extremity of Sulawesi. The coast is mountainous with dense vegetation. There are many islets and drying reefs in the deep inlets. There are numerous conspicuous mountain peaks along this stretch of coast, and N of latitude 0°25'N are some of the highest peaks in Sulawesi.

From Tanjung Dampelas to Tanjung Bagimpuang, 8.25 miles NE, the coast recedes 6 miles E and forms a deep bay. The village of Sirua (Siroea) is situated on the S shore of the bay, 6 miles E of Tanjung Dampelas.

Anchorage may be taken, by vessels with local knowledge, in depths of 29 to 46m, 0.2 mile, N of Sirua.

**Tanjung Bagimpuang** (Tanjung Bagimpoeang) (0°20'N., 119°51'E.) is formed by coral rocks, 61m high.

Tanjung Siraru (Tanjung Siraroe) lies 6 miles N of Tanjung Bagimpuang, and close N of this point, a ridge of dead coral runs parallel with the coast forming a natural breakwater. A large part of the land behind covers at high water. Tanjung Sosopan lies 3 miles N of Tanjung Siraru.

Pulau Pangalasian lies close off Tanjung Sosopan, and although it is 162m high and wooded, it is difficult to distinguish from the mainland. Pulau Maputi, 171m high, lies 2 miles NW of Pulau Pangalasian, and like that island, it is steepto and covered with tall trees. Pulau Maputi may be seen at a distance of 25 miles.

**7.32 Pulau Tuguan** (Nordwachter) (0°35'N., 119°48'E.), an islet 111m high, lies 4.25 miles NW of Pulau Maputi. A light, from which a racon transmits, shown from a white metal framework tower, 30m high, is located on the summit of the islet. Anchorage may be obtained, by vessels with local knowledge, on a ridge with depths of 14 to 18m which extends 1 mile S from the islet.

Between Tanjung Sosopan and Tanjung Bou, 13 miles NE, the coast forms a bight that is low, swampy, and covered with mangroves along the S shore, while the E shore has a sandy beach. Tanjung Bou is low with some brushwood. The high mountains E and SE of Tanjung Bou have been described.

Pasie Bangilongan is a drying coral reef that lies 4 miles NNE of Tanjung Sosopan. The reef does not show discoloration when submerged. Several reefs which dry lie in the bight, 2 to 3 miles ENE of Tanjung Sosopan.

**Tanjung Bogoang** (0°43'N., 120°03'E.), 3.25 miles NNE of Tanjung Bou, is a steep, rocky point which can be seen from the vicinity of Pulau Maputi.

Pasie Bau, 1 mile NW of Tanjung Bou, dries and is marked by discoloration when covered.

Pulau Taring is a steep, wooded islet lying close offshore, 1.75 miles NE of Tanjung Bogoang. The islet can be passed safely at a distance of 0.25 mile on its W side, but the passage on the E side, through which a strong current sets, has a depth of 4.9m.

Teluk Dampal is a large bight that lies between Pulau Taring and Pulau Lingayang (Pulau Lingajang), 18 miles NE. The bight is full of dangerous reefs, and vessels should not pass E of the curve joining these two islets.

The outer reefs along the 200m curve in Teluk Dampal are Pasie Dongalan, a reef of white sand always above water, Pasie Seranga, a 1.5m patch and, Pasie Siokan, awash at LW, which lie 6.25, 10.25, and 13 miles NE, respectively, from Pulau Taring.

Pulau Lingayang is a low coral island lying on a broad drying reef which shows discoloration. The island is visible 14 miles, but should not be approached nearer than 3 miles because of a strong current that frequently runs past it.

**7.33 Tanjung Dondo** (1°00'N., 120°17'E.) is 18m high and from the E, appears as a low sandy point with hills rising a short distance within. A prominent peak, 465m high, rises 3.25 miles S of Tanjung Dondo. Tanjung Bobanci (Tanjung Bobantiji), 4.25 miles E of Tanjung Dondo, is marked by a noticeable hillock. A small reef, with a depth of 3.9m, lies 1 mile W of Tanjung Bobanci and is usually marked by tide rips. A 1.2m patch lies 2.25 miles NW of Tanjung Bobanci.

Pulau Simatang, 2 miles NE of Tanjung Bobanci, is a large thickly wooded and hilly island that rises to a height of 303m in its S part.

The island can be seen from a considerable distance and affords a good landmark. The drying reef that fringes the island is steep-to. On its W side are four detached reefs. Pulau Tampalekang, 0.35 mile S of Pulau Simatang, is a low island lying close within the E edge of a drying reef which extends SW and W for about 0.6 mile.

Pulau Taidun, 0.4 mile ESE of Tanjung Bobanci, is covered with vegetation and lies on the SE part of a drying reef.

**Directions.**—There is a clear channel both N and S of Pulau Tampalekang.

From W, when making for the channel N of Pulau Tampalekang, after passing N of the reef with a depth of 1.2m, lying 2.25 miles NE of Tanjung Dondo which is marked by discoloration, steer for the S extremity of Pulau Simatang, bearing 089°. When the SE extremity of Pulau Tampalekang bears 180°, a slightly more S course may be steered through the channel.

From W, when making for the channel S of Pulau Tampalekang, it is advisable to pass well N of the 1.2m reef, described above. Then steer a more S course for Tanjung Bobanci, with Pulau Taidun well open NE. A mid-channel

course should then be steered between the point and Pulau Tampalekang.

Tide rips, up to a distance of 0.3 mile NE of Tanjung Bobanci, often give the impression that the coastal reef extends farther than is actually the case.

**7.34 Teluk Dondo** (0°54'N., 120°30'E.) is entered between Tanjung Bobanci and Tanjung Pangaluang, 17.25 miles ESE. The 200m line lies close off the W coast, but from the S and E coasts, the line extends offshore from 1 to 5 miles.

Teluk Santigi, immediately S of Tanjung Bobanci, affords anchorage in all conditions in depths of 29 to 37m, 0.25 mile off the head of the bay. The approach lies S of Pulau Taidun, but the bay should only be entered at LW when the coastal reef is plainly visible.

Batu Banga, about 4 miles S of Tanjung Bobanci, is conspicuous from the N.

Teluk Bananga lies in the SW corner of Teluk Dondo, and is bound on the E by a hilly tongue of land terminating in Tanjung Senyangang (Tanjung Senjangang).

The W and S shores of this bay are low and sandy, and the E shore is rocky. Anchorage can be taken about 0.25 mile off the W shore of the bay in 69m, with a point S of Batu Banga bearing 012° and Tanjung Senyangang bearing 080°.

**Tanjung Ogogili** (0°48'N., 120°30'E.), on the S shore of the Teluk Dondo, lies 9 miles SE of Tanjung Senyangang. Pasie Beluwah, which dries and is marked by discoloration when covered, lies 2 miles N of Tanjung Ogogili.

Teluk Pagalungian, in the SE corner of Teluk Dondo, is entered 4.25 miles ESE of Tanjung Ogogili.

The W entrance point can be passed close-to, but the coastal reef that surrounds the entire bay extends from the E entrance point to within 0.2 mile of the W entrance. There are depths of 20m in this entrance. By steering near the W entrance point on a SW course, there is anchorage in a basin about 0.25 mile in diameter, in 33 to 51m, mud.

The E coast of Teluk Dondo, from Teluk Pagalungian N to Tanjung Pangaluang, 11 miles NNE, provides no suitable anchorages.

**7.35** Tanjung Pangaluang (0°57'N., 120°39'E.), 11 miles N of Teluk Pagalungian, is a steep spur of a mountain ridge. The high mountains NE of the point are often obscured by clouds, but the sharp conical cone 891m high, 19 miles ENE, is sometimes visible from a great distance. Batu Dako, 2,304m high, the highest peak, rises 4 miles NNW of the 891m cone, and N of Dako the range decreases in height. The coast has deep inlets enclosed by partly drying coastal reefs. The coastal reef extends up to 1 mile offshore along this coast.

**Pulau Tingi Langa** (Pulau Tengelanga) (1°01'N., 120°44'E.), is a thickly wooded island with a conspicuous 216m high peak in its NE part. It is located on the coastal reef 6 miles NE of Tanjung Pangaluang.

Teluk Pulias is formed between the S and SE coasts of Pulau Tinga Linga and the coast of Sulawesi. The bay is entered between the coastal reef off the E end of the island and the coastal reef off the mainland, about 0.2 mile farther E. A coral patch which uncovers, lies in mid-channel 0.5 mile NNE of the E extremity of the island. Other dangers are charted from NNW to NE from Pulau Tingi Langa.

A mid-channel course in a SSW direction will lead to an anchorage with a depth of 33m, mud, 0.6 mile within the entrance.

Pulau Kabetan, a wooded island, lies 2 miles NW of Pulau Tengelanga, and is separated from it by a deep channel clear of dangers. The island rises to a height of 174m in the S part, but a flat part near the middle gives it an appearance of two islands when seen from the channel S of Pulau Simatang. There are islets and shoal water that extends 4 miles NE from Pulau Kabetan. The passage among these dangers is unsafe.

The coast between Teluk Pulias and Tanjung Tolitoli, a low point covered with mangroves, 3.75 miles NE, is fringed by a wide reef with some detached reefs outside it.

**7.36 Teluk Tolitoli** (Bali Van Toli Toli) (1°03'N., 120°48'E.) is entered between Tanjung Tolitoli and Tanjung Labuan Dedeh, a steep rocky point 1.25 miles NE. Labuan Dedeh Light is shown from the point. The bay is free of dangers but the depths decrease rapidly within the charted 20m curve. The shore is mostly fronted by a sandy beach which dries up to 0.2 mile offshore. Nalu (Naloe), the administrative headquarters, is situated on the S shore and Baru (Tolitoli), is situated on the E shore where a pier suitable for light craft.

A light is shown and a racon transmits from the pier head at the N end of the bay. The wooden pier is 38m long with a depth of 5.5m alongside.

Anchorage may be taken in a depth of 30 to 32m, mud, good holding ground, W of Baru.

Pulau Latungan, 159m high and marked by a light, lies in the entrance to Teluk Tolitoli. The passages both N and S of Pulau Latungan are safe for entering the bay, but when visibility is poor, the N passage should be used. A 7.6m patch lies 0.4 mile SE of Pulau Latungan.

From Tanjung Labuan Dedeh, the coast 16 miles N to Ujung Malangka is high with rocky points and shallow bays between with sandy beaches. Pulau Tende, joined to the mainland by a partly drying reef, lies 7 miles N of Tanjung Labuan Dedeh. The islet is 53m high and shows well against its dark background.

There are no dangers inshore along this stretch of coast, but a ridge of reefs, most of which dry, runs offshore at about 5 miles distance with depths of 25 to 92m between them and the shore.

**Tanjung Kekoh** (1°07'N., 120°47'E.), 3.5 miles N of Tanjung Labuan Dedeh, is a rocky point rising to a hill 171m high. A light is shown from a fuel depot situated 1 mile NNE of Tanjung Kekoh.

Pasie Bulu Mata (1°09'N., 120°37'E.), 4.25 miles N of the N extremity of Pulau Kabetan, is a drying reef on which there is a rock awash. This reef is the SW danger in the line of reefs discussed above. They run in a NE direction terminating in Kepulauan Silando on the N extremity of Pasie Silando. A light is shown and a racon transmits from a white metal framework tower, 25m high, situated on an islet at the NE extremity of Pasie Silando.

Reference to the chart will show the location of the dangers in this area.

**Selat Kapas** (1°19'N., 120°48'E.), lying between Pasie Silando and the coast, is safe and navigable with a least width of 0.25 mile. There is a shoal patch, with a least depth of 5m, charted 2 miles S of the light.

Vessels entering the strait from the S, steer course 006° and pass W of Pulau Kapas, which lies 1 mile E of the S extremity of Pasie Silando keeping on the reef side. The two islets of Kepulauan Silando must be in line before rounding Ujung Malangka (Tanjung Arus). A current of 1 to 2 knots sometimes runs through the strait, and frequently there is a short turbulent sea outside the N entrance. Anchorage in 27 to 31m, sand, can be taken in the bight NE of the reef-fringed Pulau Kapas.

#### Sulawesi—North Coast

**7.37** This part of the sector describes the N coast of the island from W to E. The bays, islands, and dangers are described within the text in the appropriate section of the coast.

The N coast of Sulawesi, between Tanjung Malangka (Tanjung Arus) and Tanjung Utara, about 255 miles E, is generally high and most of the capes are formed by the spurs from high mountains which rise a short distance inland along the hilly coast. There is often narrow and bright sand beaches between the dark points of land. The coast is steep-to and can be approached closely, although numerous reefs lie within the 200m curve off the central part of this coast. These reefs are nearly always marked by discoloration and there are sufficient prominent points for fixing a vessel's position.

**Tanjung Arus** (1°20'N., 120°49'E.) is a prominent, rocky bluff bordered by a coral ledge about 0.2 mile wide.

Close S of the point the land rises to Batu Sikala, 570m high. From Tanjung Malangka the coast trends in a general E direction 40 miles to Tanjung Kandi. There are several bays formed in this sector. The coast is high, with many conspicuous summits rising a short distance inland, that afford good bearing points.

Lingadang, a large village, stands on the S side of a basin in the coastal reef. It is entered by a narrow passage, 3.25 miles E of the point.

Anchorage with shelter may be obtained at all times, in depths of 7 to 15m, inside the basin. Vessels can safely enter when the reefs are clearly visible.

**7.38** Pulau Dolangan, 5 miles ENE of Tanjung Arus, is a flat, thickly wooded island 45m high, lying on a broad, steep-to coastal reef that extends 1 mile from the coast. The island is visible about 16 miles and is conspicuous from E and W.

Teluk Belonligun (Baai Van Belonligoen) is entered between the N end of the peninsula extending NE from Lingadang and Tanjung Bonto, a low point 2.25 miles E.

On the W side of the entrance there is a prominent hill with a summit. The E side of the bay is low and covered with mangroves. The S shore of the bay is hilly and densely wooded. The village of Belonligun (Belonlioh) (Loalalang) is situated on a point on the E shore, 1.75 miles SW of Tanjung Bonto.

The entrance to the bay, between the drying reefs projecting from each shore, is about 0.35 mile wide. A 9m patch lies in the middle of the entrance channel. A 3.5m patch lies 0.25 miles to the N.

There is good anchorage, in 38 to 46m, sand, about 0.35 mile WNW of Belonligun. Small vessels may anchor, in 20m, mud, S of the village.

The coast between Tanjung Bonto and **Tanjung Mantok** (1°19'N., 121°05'E.), a cape rising steeply out of the sea 8.25 miles E, is high, rocky, and may be identified by yellow patches among the trees covering it.

Pulau Diuleh, 4.25 miles E of Tanjung Bonto, is a flat rock surrounded by a coral reef that nearly covers at high water. Between the islet and the coast there is a clear passage 0.25 mile wide with a depth of 26m.

Pulau Pinjan (Pulau Pindjan), a group of rocky islets, lies in the mouth of Teluk Pinjan (Pindjan), 1 mile W of Tanjung Mantok.

Anchorage may be taken in Teluk Pinjan, S of the islets near the village of Pinjan or close E of the islets, depending on the wind.

The coast between Tanjung Mantok and Tanjung Dutuno, 16 miles ESE, is generally low and flat in the W part, then 4.25 miles WSW of Tanjung Dutuno, it starts rising to that cliffy point.

Teluk Busak is entered between Tanjung Dutono and **Tanjung Kano** (1°16'N., 121°22'E.).

Pulau Busak, a rocky islet, 75m high, is steep-to. The islet, located 1.25 miles ENE of Tanjung Dutuno, is difficult to identify against the dark background.

Anchorage may be taken, by vessels with local knowledge, in depths of 23 to 27m, 0.9 mile SW of Pulau Busak. Vessels should always approach the anchorage by passing W of Pulau Busak.

Tanjung Kramat, 5.25 miles NE of Tanjung Kano, is the W extremity of a high peninsula, and **Tanjung Kandi** (1°19'N., 121°28'E.), 2 miles E of Tanjung Kramat, is the NE extremity of the same peninsula. Tanjung Kandi light is shown from a height of 120m.

The peninsula appears as an island when seen from a distance W and the 471m summit is easily seen from the E.

The coast between Tanjung Kano and Tanjung Kramat is steepto. A reef, with a charted depth of 1.2m, lies close within the 200m curve. Its W extremity lies 0.75 mile NE from Pulau Busak.

**7.39** From Tanjung Kandi the coast extends in an ESE direction 62 miles to Tanjung Sumalata, a point that rises to a hill 306m high, and is fringed by a steep-to reef. The coast is backed by the Paleleh Mountains which parallel the shore and rise to a height of 2,300m, 30 miles SE of Tanjung Kandi.

The 200m curve lies as close as 0.75 mile offshore along this coast and as much as 5 miles in other places. There are several charted islets and reefs within the 200m curve, and there are two reefs charted outside of this line.

Teluk Bilang, a bay lying 4.75 miles S of Tanjung Kandi, is almost entirely filled by a bank which dries.

Leok, a village and an administrative headquarters, stands 7.25 miles S of Tanjung Kandi. Buol, 2 miles S of Leok, is also an administrative headquarters.

Anchorage may be taken, in 56m, 0.25 mile offshore of these villages. It is not advisable to approach in less than 28m, as the depths decrease rapidly. Both anchorages are unsafe during E winds.

Karang Pantuluta, with a depth of 10m, lies within the 200m curve, 1.25 miles SE of Tanjung Kandi.

The coast between Buol and Tanjung Kanjai (Tanjung Kandjai), 30 miles E, is generally high. Teluk Lokodidi and Teluk Luokodoka are two small inlets that lie about midway

between Buol and Tanjung Kanjai. Close to the coast between these two bays there is a wooded hill, 135m high, that affords a good landmark.

There are no off-lying dangers between Buol and Teluk Luokodoka, but several reefs lie within the 200m curve which runs less than 3 miles from the coast at its furthest point.

**7.40 Pulau Bokki** (1°06'N., 121°49'E.) and Pulau Raja (Pulau Radja) are two low islets, covered with vegetation and surrounded by reefs, that lie from 7 to 9 miles ENE, respectively, of Teluk Luokodoka.

The water between Teluk Luokodoka and Pulau Bokki is encumbered with dangers.

Karang Belanda, a drying rock surrounded by a reef, lies 3 miles ESE of Pulau Raja.

From **Tanjung Kanjai** (1°06'N., 121°56'E.) to Tanjung Sumalata, 31 miles ESE, the coast line is indented by many small inlets and bays, separated by high points projecting far into the sea.

The village of Paleleh is situated on the W shore of a bay, 3 miles SSE of Tanjung Kanjai. The E entrance point of the bay, Tanjung Lobu, lies 8 miles ESE of Tanjung Kanjai. A danger area, best seen on the area chart, is situated offshore in this area.

Within the 200m curve along this coast, the depths decrease rapidly and the bottom is irregular. The reefs and islets within the 200m curve are best seen on the area chart.

**7.41 Karang Bulolio** (1°08'N., 122°22'E.), a steep-to reef of sand and coral which dries, lies outside the 200m curve, 7.75 miles NW of Tanjung Sumalata. Karang Buliogut, a reef similar to Karang Bulolio, is marked by a light, and lies 2 miles E of that reef. These two reefs are the only dangers outside the charted 200m curve N of Sulawesi.

Tanjung Dulang lies 48 miles E of Tanjung Sumalata. The coast is indented and there are numerous off-lying dangers. The 200m curve lies up to 10 miles offshore, but there are patches which dry, close within this line; there are no charted dangers outside this depth.

The village of Sumalata lies 4.25 miles SE of Tanjung Sumalata. Pulau Ulawa, a low islet, lies 1.25 miles N of Sumalata and Pulau Duyonumo (Pulau Dujonumo), a wooded islet, lies 0.75 mile ENE of Sumalata. Pulau Duyonumo and a drying reef close SE of its E extremity protect the road off Sumalata. A shoal patch is charted 1 mile NE of Pulau Duyonumo.

Anchorage may be taken close under the S coast of Pulau Duyonumo, in 31m, with a hawser to the shore. This anchorage provides protection in the Northwest Monsoon.

Teluk Kuandang, lying between Tanjung Dondo, located 7 miles ESE of Sumalata, and Tanjung Besar, a high point 19 miles E of Tanjung Dondo, is full of islets and reefs; the reefs are generally marked by discoloration.

**Laimula Reef** (1°03'N., 122°40'E.), with a depth of 5.8m, lies close inside the charted 200m curve, 5 miles NNE of Tanjung Dondo.

Pulau Motuo, an island 263m high, lies 3 miles NNE of Tanjung Dondo. Foul ground extends 1 mile from the SW to the NW sides of the island. A reef, with a depth of 4.9m, lies 3.75 miles E of Pulau Motuo and Karang Montrado, with a depth of 5.8m, lies 1.75 miles farther E.

**Karang Haarlemnermeer** (1°02'N., 122°50'E.), an extensive shoal with a least depth of 2.7m, lies 12 miles ENE of Tanjung Dondo, close within the 200m curve. It is the N danger off Teluk Kuandang.

Pulau Huha, a hilly islet resembling a whale, lies 1.75 miles N of Tanjung Besar. A reef, on which there are some abovewater rocks, lies midway between the islet and the point. The islet is a good landmark when approaching Teluk Kuandang.

Pulau Hulawa lies on the SE side of a drying reef, 3 miles W of Tanjung Besar. A light is displayed from a 25m high white metal framework tower on a white painted rock located on the NE side of the islet.

Pulau Otangala, 7.25 miles SE of Pulau Motuo, is the largest island in Teluk Kuandang. Pulau Payunga (Pulau Pajunga) lies on a drying reef 3.25 miles E of Pulau Otangala. Each of these islands are surrounded by drying reefs with rocks on them. The many reefs and rocks in this bay, not described in detail, may be seen on the chart.

**7.42 Kuandang** (0°51'N., 122°55'E.) (World Port Index No. 52020) is an open roadstead anchorage situated in the SE part of Teluk Kuandang. The village is situated S of the anchorage and cannot be seen from the road.

The usual anchorage is on the E side of Pulau Payunga, in a depth of 11 to 22m, mud; it is safe in both monsoons.

**Directions.**—From W, vessels may pass either N or S of Pulau Motuo and then N of Pulau Otangala and Pulau Payunga, then to the anchorage.

From E, the passage to the anchorage is between Pulau Huha and Pulau Hulawa and then S to the anchorage.

Vessels must bear in mind the many shoals, some with less than 0.6m of water, lie in the bay.

The coast between **Tanjung Besar** (0°58'N., 122°56'E.) and Tanjung Dulang, 18 miles E, is indented and there are numerous off-lying dangers.

Teluk Himana (Teluk Imana), confined by a bank of sand, mud, and stones which partly dries and occupies the whole inner part of the bay, is located 9 miles ESE of Tanjung Besar.

Anchorage may be taken in the bay in a depth of 9 to 13m.

Teluk Buku, about 4 miles E of Teluk Himana, is entirely open to NW winds and is unsafe during the Northwest Monsoon.

Tanjung Belongkoh is the E entrance point to Teluk Buku. Tanjung Dulang lies 5.25 miles E of Tanjung Belongkoh. Two miles SSW of Tanjung Dulang, the land rises to a height of 608m.

The coastal water from Tanjung Besar to Tanjung Dulang is steep-to. The 200m curve lies up to 7.25 miles offshore, and there are many steep-to reefs in this area.

**Pulau Bangkil** (1°03'N., 123°06'E.), a low, wooded islet with a white sandy beach, lies on the SW end of a drying reef, close inside the 200m curve, 11 miles NE of Tanjung Besar. Karang Longugu, with a depth of 4.9m, lies 3 miles E of Pulau Bangkil.

Karang Java, with a depth of 3m, lies 3 miles NW of Tanjung Belongkoh.

It should be noted by vessel transiting the N coast of Sulawesi that not all shoal areas are described in this sector, and reference to the appropriate chart should be made.

**7.43** From Tanjung Dulang, the coast which is backed by some high peaks, extends 28 miles E to Tanjung Batu. The

shore is less indented than that close W or toward the E. The 200m curve lies up to 10 miles offshore in places, and there are some shoal patches close within this line. A danger area, which may best be seen on the area chart, lies off Tanjung Dulang.

Labuan Broko is a small bay entered about 2 miles SSE of Tanjung Dulang. This bay affords anchorage SSE of the rocky N point of the bay, but is unprotected from E and N winds.

**Bolaangitam** (0°55'N., 123°19'E.), a village in which there is a flagstaff, stands 3.25 miles E of Labuan Broko.

A mountain peak with a height of 1,921m, rises 12 miles S of Bolaangitam.

A shoal patch, with a depth of 5.8m, lies 2 miles N of Bolaangitam and a patch, with a depth of 1.2m, lies near the 200m curve, 4 miles farther NNE. A 4.5m patch lies 1 mile E of the 1.2m patch.

**Tanjung Bokabak** (0°55'N., 123°27'E.), located 8 miles E of Bolaangitam, rises to a height of 294m, 1.25 miles S.

Pulau Alanga, two reefs which dry, lie 2.25 miles N of Tanjung Bokabak. Buntong, with a depth of 3m, lies 2 miles E of Pulau Alanga.

Sungai Sangkup enters the sea 8 miles E of Tanjung Bokabak.

**Tanjung Batu** (0°53'N., 123°43'E.) lies 7 miles E of the entrance to Sungai Sangkup. The land rises to a height of 941m, 3.75 miles S of Tanjung Batu. A rock awash lies 0.25 mile NW of Tanjung Batu, and a similar rock lies 0.75 mile ENE of the same point.

Tanjung Lainpangi lies 41 miles ENE of Tanjung Batu. There are a few bays along this coast that provide an anchorage.

The mountains rise a short distance inland and the 200m curve lies from about 5 miles offshore at Tanjung Batu, and closes to 1 mile off Tanjung Lainpangi.

**7.44 Teluk Domisil** (0°51'N., 123°45'E.) is entered close SE of Tanjung Batu. The reef-fringed bay is protected on the E by a peninsula that extends 1.25 miles NNW from the shore.

Anchorage, with shelter from all winds but those from NNW to N, may be taken in the inner part of Teluk Domisil.

Care must be taken to avoid the drying reef that lies 0.25 mile S of the NW extremity of the peninsula.

Pulu Tiqa are three wooded islets surrounded by partly drying reefs that lie 1.25 miles offshore, 3 miles ENE of Teluk Domisil. The middle islet, the highest of the group, is 112m high.

Teluk Bolaanguki, about 7 miles E of Pulu Tiga, affords sheltered anchorage under all conditions. The general depths in the bay are 18 to 29m. An islet covered with vegetation lies off the NE entrance to the bay, and a detached drying reef lies about 0.75 mile SSE of the islet.

**Pulau Molosso** (Molosso) (0°55'N., 123°58'E.) is a hilly islet lying 2 miles offshore, 4 miles NE of Teluk Bolaanguki.

Lombangin, a large village, stands close SE of a point, 7 miles E of Pulau Molosso. Anchorage may be taken offshore from Lombangin in a depth of 55m, NNE of the flagstaff, in line with a custom shed farther inland.

Between Pulau Molosso and Tanjung Nonapang, 17 miles NE, there are several conspicuous hills; Ompu, 215m high, 3 miles SSW of Lombangin; Banka, 172m high, close NE of Ompu; and Mariri, 469m high, 6 miles ENE of Lombangin.

Bolaang Mongondou, a village 3.25 miles ENE of Lombangin, has coconut plantations E of it.

Anchorage may be taken off the village in depths of 29 to 35m, 0.3 mile offshore; with W winds a sea is quickly raised. From a position 1.25 miles N of Bolaang Mongondou, a line of reefs, some of which partly dry, run parallel NE with the coast for 4 miles. Vessels without local knowledge should pass outside the reefs.

The coast between Bolaang Mongondou and Tanjung Lainpangi, 16 miles NE, is hilly except near Tanjung Nonapang where Sungai Poigar flows through a low plain. Anchorage can be taken off the mouth of Sungai Poigar in 55 to 65m, about 0.2 mile offshore.

**7.45 Tanjung Lainpangi** (1°10'N., 124°20'E.) is a steep-to point. Between Tanjung Lainpangi and Tanjung Kelapa, 23 miles NE, the coast is indented by Teluk Amurang.

Teluk Amurang is entered between Tanjung Walintau, 5 miles NE of Tanjung Lainpangi, and Pulau Tetapaan, 8 miles farther NE.

Amurang, a large village, stands in the SE corner of Teluk Amurang, 7.25 miles SSW of Pulau Tetapaan. It is an administrative district. The church gable and spire are prominent objects in the village.

The best anchorage is in 69m, sand, about 183m from the beach with the flagstaff of an old fort bearing 148°. Pelabuhan Luak, located on the N shore of Teluk Amurang, affords shelter for small vessels during the Northwest Monsoon.

**Pulau Tetapaan** (1°18'N., 124°30'E.), a low, thickly-wooded island, lies on the coastal reef, 1 mile offshore. Close E of the island there is an inlet that affords shelter for small vessels during the Northwest Monsoon.

The coast between Pulau Tetapaan and Tanjung Kelapa, 10 miles NE, is fringed by a broad coastal reef extending nearly 2 miles offshore. This stretch of coast should not be approached within 3 miles.

Teluk Tanahwangko, entered close E of Tanjung Kelapa, has a narrow coastal reef except off the village of Tanahwangko.

**Tanjung Kalasei** (Tanjung Mandolang) (1°27'N., 124°44'E.) lies 7.75 miles ENE of Tanjung Kelapa. Gunung Lokon, an active volcano with four summits, the S one 1,584m high, rises 5 miles S of Tanjung Kalasei.

Teluk Manado, entered between Tanjung Kalasei and Tanjung Pisok, 8 miles NNE, is fringed by a narrow coastal reef except off Tanjung Pisok, where it projects 0.4 mile W. This part of the reef is steep-to and the greater part of it dries.

Although Teluk Manado is spacious and free from dangers, the road is never calm and during December, January, and February when heavy rain squalls blow from the NW; it is often unsafe. During other months of the year it is squally, particularly in the evenings after the land breeze sets in. September and October are the best months.

**Anchorage.**—Anchorage may be taken, in a depth of 55m, 0.4 mile offshore N of Manado. The area is foul with lost anchors and chains, and it has been reported that most large vessels remain underway due to the numerous patches of foul ground.

**7.46** Manado (Menado) (1°30'N., 124°50'E.) (World Port Index No. 52040) is situated on the E shore of Teluk Manado

and lies on both banks of Salo Manado, which empties into the bay. The town is the administrative headquarters of the district. A mole extends from the N entrance of the river and a short mole projects from the S entrance. Lights are shown from the seaward extremity of each mole. A basin on the S side of the river provides 223m of wharves with alongside depths of .5 to 1m. There is also a ferry pier.

**Tanjung Tokabene** (1°29'N., 124°50'E.) is located 0.75 mile SW of Manado Lighthouse, near the entrance to Manado River. Karang Tokabene, which dries, lies 0.2 mile WNW of the Tokabene point. There are two mooring buoys for tankers to discharge oil, SSW of Tanjung Tokabene. Pilotage is not compulsory.

The coast between Tanjung Pisok and Tanjung Utara, 15.5 miles NE, is low and covered with mangroves to the water's edge. It is broken by several creeks, and is bordered by a generally narrow reef. The charted 200m curve lies close offshore along this stretch of coast.

Kima, a village, stands at the head of a bay, 4 miles NE of Tanjung Pisok. Landing can be made here when it is impracticable at Manado.

**Anchorage.**—Anchorage may be taken with shelter from NW winds, by vessels with local knowledge, off Kima, in a depth of 29m or inside the reefs, in a depth of 42m.

Anchorage may also be taken in Teluk Kora Kora, 10 miles NE of Kima, with good shelter, in a depth of 35m. A reef

which dries, extends from both entrance points of Teluk Kora Kora, leaving a passage 91m wide.

**Tanjung Utara** (1°45'N., 124°59'E.), the NE extremity of Sulawesi, is wedge shaped when seen from W or E, and rises gradually to the hilly land within.

## **Off-lying Islands**

**7.47 Pulau Nain-besar** (1°47'N., 124°47'E.), lying about 11 miles WNW of Tanjung Utara, appears saddle shaped when seen from E or W. The N summit, 192m high, is the highest peak. Pulau Nain-kecil, a wooded islet 35m high, lies on the coral reef E of Pulau Nair-besar.

Pulau Mantehage, 2.5 miles SSW of Pulau Nain-besar, is flat and wooded; the fringing reef extends about 1.5 miles.

Pulau Manadotua, a very steep, circular island, rising to a height of 822m in the form of a truncated cone having the appearance of a volcano, is located 4 miles SSW of Pulau Mantehage. An explosives dumping ground lies 6 miles W of Pulau Manadotua. Pulau Buenaken, 1 mile E of Pulau Manadotua, is low but gradually rises to a round-topped hill 110m high in its W part. The S extremity of the island lies 2 miles NW of Tanjung Pisok. Pulau Siladong, 1 mile E of Pulau Buenaken, is low and nearly covered with coconut trees.

All the islands mentioned above are covered by coconut plants and they are reserved for the conservation of flora and fauna.

The channels between these islands are deep and clear.